T&E Item#1
June 29, 2023
Worksession

M E M O R A N D U M

June 26, 2023

TO: Transportation and Environment Committee

FROM: Ludeen McCartney-Green, Legislative Attorney

SUBJECT: Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan

PURPOSE: **2nd Worksession –** Committee to make a recommendation

Expected Attendees
Chris Conklin, Director, Department of Transportation (Invited)
Wade Holland, Vision Zero Coordinator, Department of Transportation (Invited)
Emil Wolanin, Deputy Director, Department of Transportation
Eli Glazier, Planner III, Montgomery County Planning Department
Jason Sartori, Chief, Montgomery County Planning Department
Brian Hull, Chief Operating Officer, Montgomery County Public School

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan, also known as, The Safe Streets Act of 2023, sponsored by Lead Sponsor Council President Glass with Co-Sponsors Councilmembers Luedtke, Stewart, Katz, Fani-González, Council Vice-President Friedson, and Councilmembers Jawando, Balcombe, Albornoz, Mink, and Sayles was introduced on February 28, 2023. A public hearing was held on March 21, 2023, at 1:30 p.m. A Transportation and Environment Committee was held on March 30, 2023. A second worksession is scheduled for June 29, 2023.

Bill 11-23 would:

(1) require an infrastructure review for pedestrian-related collisions within a County's school zone;
(2) prohibit a driver of a motor vehicle from making a right turn on a red at certain intersections;
(3) require certain traffic control devices at crosswalks in the County's downtown and town center areas;
(4) require the County Executive to provide an automated traffic enforcement plan; and
(5) generally amend the law regarding motor vehicles and traffic control.

PURPOSE

The purpose of this bill is to advance the County's Vision Zero goals by eliminating serious and fatal crashes through the means of addressing specific transportation initiatives, including prioritizing student safety in school zones, providing more access for pedestrians in a crosswalk, prohibiting a right turn on red, and requiring a plan for increased automated traffic enforcement.

BACKGROUND

In 2016, the Council adopted Vision Zero to make road safety a top priority in Montgomery County.[1] As outlined in the Vision Zero action plan describes, **"**using data-informed and equitable approaches, Montgomery County will systematically update the roadway network to create complete, safe streets and build a culture of safety through purposeful campaigns and engagement to eliminate serious and fatal collisions by 2030."[2] Since then, even though, the County has made advancements in safety for pedestrians and cyclists, residents in our equity-emphasis areas are still more likely to experience an injury or fatality on our roads. Since 2015, 64% of all pedestrian-involved crashes occurred at intersections. For bicyclists, 74% of all incidents occurred at intersections. Since 2020, there have been 41 pedestrians and bicyclists killed by motorists, and over 1,400 have been injured. In 2022 alone, 19 non-motorists died and 574 were hit.

The neighboring jurisdiction, Washington D.C. has also adopted a Vision Zero program, which set the goal that, by 2024, it will "reach zero fatalities and serious injuries to travelers of its transportation system through more effective use of data, education, enforcement, and engineering." The District passed its Vision Zero Enhancement Omnibus Amendment Act of 2019, back in September of 2020, to address right turns on red in some locations; however, the legislation remains unfunded, and therefore not in effect.

State v. Local Authority

The Maryland Vehicle Law[3] expressly preempts local regulation on any subject that is within the Maryland Vehicle Law, *See Transp*. § 25-101.1. However, there are exceptions to the preemption. Transp. § 25-102(a) states that the Maryland Vehicle Law "do[es] not prevent a local authority, in the reasonable exercise of its police power, from exercising [certain enumerated] powers as to highways under its jurisdiction. One of those powers is "…regulating the traffic by […] traffic control devices; [or] regulating or prohibiting the turning of vehicles or specified types of vehicles at intersections […]" Transp. § 25-102(a)(2) and (9). As a result, the County has the authority to legislate within this scope.

BILL SPECIFICS

Traffic Infrastructure Review

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[1] Resolution 18-390, Resolution to adopt Vision Zero in Montgomery County and urge the State of Maryland to also adopt Vision Zero. Adopted February 2, 2016.

[2] Vision Zero 2030 Action Plan

[3] The Maryland Vehicle Law is found in Titles 11 through 27 of the Transportation Article, Md. Code Ann., Transp. § 11-206.

Bill 11-23 would require that an infrastructure review must be performed if a student going to or from school is involved in a collision within a County's school zone. An infrastructure review is a study of several factors that led to the collision and recommendations for traffic improvements, specifically, the review must include the following:

Lines 22-27:

(1) any deficiencies in engineering, traffic control, and traffic operations; and

(2) appropriate corrective actions and crash reduction countermeasures that are consistent with the United States Department of Transportation's best practices and the County's Vision Zero program.

No Right Turn On Red

Further, the Bill would require Montgomery County's Department of Transportation to post signs marked, "No Right Turn On Red" at the intersection of a County road in downtown and town center areas. A downtown or town center area is defined under recently adopted, Bill 24-22, Streets and Roads, and corrective Bill 34-22, Streets and Roads – Classifications of Roads, to be codified in Sections 49-31 of the County Code after 91 days of bill enactment.[4] A driver of a motor vehicle would be prohibited from making a right turn on red in those specific locations.

Leading Pedestrian Interval

A leading pedestrian interval (LPI) is a traffic control device that, "gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn right or left."[5] The bill requires LPIs in downtown and town center areas.

Lines 76-80 of the Bill:

Leading pedestrian interval – required. The Director must install or cause to be installed a leading pedestrian interval at every crosswalk of a County road located:

(1) in a downtown area; and

(2) in a town center area.

Automated Traffic Enforcement Plan

[4] Bill 24-22 was enacted by the Council on 10/25/2022 and Bill 34-22 was enacted by the Council on 12/13/2022. A bill enacted becomes effective 91 days after the County Executive signs the bill. The text of the law will not be available online for the public to review until after 91 days.

[5] U.S. Department of Transportation Federal Highway Administration. Leading Pedestrian Interval., https://highways.dot.gov/safety/proven-safety-countermeasures/leading-pedestrian-interval.

Lastly, Bill 11-23 would require the County Executive to provide an automated traffic enforcement plan. See, lines 82 -100 of the Bill. (©6).

PUBLIC HEARING

Wade Holland, Vision Zero Coordinator, MCDOT, representing the Executive, supported the Bill, with amendments to expand the Department's discretion for waiver of "No Right Turn on Red" and LPI at certain intersections (©61). Eli Glazier, representing the Montgomery County Planning Board, submitted written testimony supporting the Bill, along with suggested amendments for Council's consideration (©64). Marilyn Berger, Warren Chen, and Jaime Herr provided testimony in support (©50, 62, 47).

Several additional testimonies include support with amendments, amendments include expanding the scope for a traffic infrastructure review to occur for any pedestrian for all school-related crashes. See testimonies of the Washington Area Bicyclists Association (©59), Montgomery County Families for Safe Streets (©45), Action Committee for Transit (©53), and Locust Hill Citizens' Association (©56). Amendments to expand LPI implementation at other intersections, supported by testimony provided by Michael Larkin (©51).

Jared Hautamaki, an individual, written testimony expressed opposition to the prohibition of no right turn on red because it would increase traffic dwell times, increase carbon emissions, and increase vehicle travel time. Mr. Hautamaki's opposition to the traffic enforcement devices and made recommendations for amendments, see page ©49.

SUMMARY OF IMPACT STATEMENTS

CLIMATE ASSESSMENT STATEMENT: The Office of Legislative Oversight (OLO) anticipates Bill 11-23 could have a positive impact contribution to addressing climate change […] to encourage safer streets for all users, which can encourage more active transportation (i.e., walking, cycling) and lead to less dependency on automobiles. This lowered dependence could have a co-benefit of lowered greenhouse gas emissions associated with transportation and enhanced community resilience. However, the significance of this impact is indeterminate. ©7

ECONOMIC IMPACT STATEMENT: According to OLO, Bill 11-23 would have an overall positive impact on economic conditions in the County. OLO expects the Bill to induce pedestrian and bicycle infrastructure development in certain downtown and town center areas in the County that otherwise would not occur in the absence of the policy change. Businesses contracted to carry out this development likely would experience increased business income. ©13

FISCAL IMPACT STATEMENT (FIS): MCDOT identified a total of 98 intersections throughout Bethesda's, Silver Spring and Wheaton's Central Business Districts (CBD), including Maryland Department of Transportation State Highway Administration signals, and identified a total of 143 occurrences where a "No Right Turn on Red" would be required. The cost for contractors to install signs at each occurrence in the CBDs would be $1,230, for a total of $175,890, assumed to be expended in FY25 to be implemented by the required effective date of July 1, 2025.©77

RACIAL EQUITY AND SOCIAL JUSTICE IMPACT (RESJ): The Office of Legislative Oversight (OLO) finds the racial equity and social justice (RESJ) impact of Bill 11-23 is indeterminant. © 67.

SUMMARY OF T&E COMMITTEE WORKSESSION – MARCH 30

Participating in the discussion were Chris Conklin, Director, Michael Paylor, Chief, Traffic Engineering and Operations, Wade Holland, Vision Zero Coordinator, Emil Wolanin, Deputy Director of MCDOT, Captain Bill Dillman of MCPD, David Anspacher and Eli Glazier, from the Montgomery County Planning Department.

The Committee discussed Bill 11-23, which would require infrastructure review within school zones, prohibit right turns on red, and require an automated enforcement plan.

The Committee voted 3-0 to amend the following:

1) expand the traffic infrastructure review to include a collision involving a **[[**student**]]** pedestrian walking, biking, or using other non-motorized conveyances to or from school that occurs on:
   (1) a County road in a designated school zone; or
   (2) school property **[[**during arrival or dismissal times**]]** at any time. (lines 12-19)
2) clarify verbiage related to County-owned signalized intersections instead of County-controlled signalized intersections (lines 69-72);
3) require annual reporting to include data on referrals made by MCDOT related to collisions that occur on school property under the jurisdiction of a municipality or State highway;
4) modify the requirement for the automated enforcement plan to comply with state law; and
5) clarify that a review must be completed within 6 months after notification of a crash to the County Department of Transportation by law enforcement.

The Committee requested additional information related to: 1) whether LPIs be installed within a certain distance from access points or other alternatives; 2) whether they should accept recommendations by the Executive branch to include corrective actions and countermeasures, including changes to education and outreach for drivers.

Lastly, an amendment suggested by Councilmember Friedson via a memo sent to the Committee requested that a collision review should apply within 100 feet of school bus stops in the County. The Committee wanted additional information from Montgomery County Public Schools (MCPS) prior to voting on the amendment. MCPS will be invited to a future worksession to be included in the discussion.

ISSUES FOR COMMITTEE'S DISCUSSION

1. **Whether to expand the infrastructure review to include collisions within 100 feet of school bus stops.**

As cited in Councilmember Friedson's memo (©19-20), a proposed amendment to broaden the scope of the infrastructure review requirement **to every collision that occurs within 100 feet of a school bus stop.**

Amend lines 12-19, as follows:

Traffic infrastructure review within a school zone - required. Upon notification of a collision involving a pedestrian walking, biking, or using other non-motorized conveyances to or from school by law enforcement, the Department of Transportation must **[[**coordinate with the Montgomery County Public Schools to**]]** conduct a traffic infrastructure review of each collision that:

(1) occurs on a County road; and

(2) **[[**involves a student going to or from school;

(3) occurs**]]** in a designated school zone on school property **[[**during arrival or dismissal times**]]** at any time; or

(3) within 100 feet of a school bus stop.

Decision point: Whether the Committee approves of the amendment proposed by Councilmember Friedson as described above?

2. Clarify that LPIs must be installed within certain feet of a school, park, rail, bus rapid transit, library, or community center.

During the March 30 worksession, the Committee discussed an amendment to require a leading pedestrian interval to be installed at least one block within a school, park, rail, library, bus rapid transit station, or community center. Since the worksession, Council staff received a recommendation from the Park and Planning staff (© 73) to revise the language from "within one block" to "within 1,300 feet." Planning staff explained the following:

> "A distance of 1,300 feet may be acceptable to the committee as an upper limit as this is the "Generally Accepted Minimum Spacing for Signalized Intersections" for Boulevards, Area Connectors, and Neighborhood Connectors in the County's Complete Streets Design Guide. These are the street types outside of downtowns and town centers that are most likely to provide access to public facilities. This distance is based on a five-minute walk, which is a distance that most people are willing to walk."

Planning staff identified that changing the distance to within 1,300 feet would include at least 54 access points that are outside of downtown and town center areas. (© 73). The Committee may consider amending lines 76-80, as follows:

(e) *Leading pedestrian interval – required.* The Director must install or cause to be installed a leading pedestrian interval at every crosswalk **[[**of a County road located**]]** of County-owned signalized intersections located:

(1) in a downtown area or in a town center area; and

(2) at the closest intersection within **[[**one block **]]** 1,300 feet in each direction of the access point of a school, park, rail, library, bus rapid transit station, or community center frontage.

Decision point: Whether to amend the distance required for installation of LPIs from "within one block" to "within 1300 feet"?

3. Should the Bill provide MCDOT with discretion and flexibility to implement traffic control and devices? Should the Bill require an annual report?

Testimony provided on behalf of the County Executive and the Planning Board recommends that the legislation include an exemption provision that would allow MCDOT to use its discretion on a case-by-case basis whether to install a no-right turn on red, LPIs, or instead provide alternative safety alternatives for a particular signalized intersection. *See* testimonies at ©61 and ©64. The CE's memorandum, as a reference, provided guidance related to the implementation of NTOR and LPI by the Maryland on Uniform Traffic Control Devices (MdMUTCD). (©41 and ©42).

In addition, the Committee previously discussed requiring an annual report to gather data on intersections that were exempt, and the number of referrals made for traffic collisions that occurred outside of the County's jurisdiction.

The Committee may amend line 80, as follows:

(f) *Exemption.* The requirements of subsection (c) or (e) do not apply at a signalized intersection if the Director determines that installing a "no right turn on red" restrictions or leading pedestrian interval would significantly impair public safety.

(g) *Annual Reporting*. By July 1 of each year, after the effective date of this Act, the Director must transmit to the Council a report that includes:

(1) a rationale or evaluation, for any intersection where the Director determined, under subsection (f), the installation of "no right turn on red" signage or a leading pedestrian interval should be exempt; and

(2) the number of referrals with recommendations for road safety improvements made by the Department to a municipality or the State

Highway Administration for a traffic collision that occurred on a non-County maintained roadway.

(3) The report must be updated and resubmitted to the Council annually to account for any changes in circumstances or recommendations by the Department.

Decision Point: Whether the Committee approves of the amendments as described above?

4. Amendments for a holistic approach that includes outreach and education.

MCDOT explained the proposed amendment is important because roadway infrastructure is one part of the Safe System, and the review should encompass all parts of the system. (© 22).

For additional context, the U.S. Department of Transportation focuses on using all tools, including education, outreach, engineering solutions, and enforcement to address persistent behavioral safety issues. The Federal Highway Administration (FHWA) describes, "traditional road safety strives to modify human behavior and prevent all crashes, the Safe System approach also refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives." (© 76).

The Committee discussed and highlighted the importance that the review should focus on changes to infrastructure, Council staff recommends, in addition to the MCDOT amendment, clarification that the primary purpose of the review. The Committee may amend the Bill, as follows:

Amend lines 26-27, as follows:

(f) *Contents of the traffic infrastructure review*. The review under subsection (e) must identify, primarily:

(1) any deficiencies in engineering, traffic control, and traffic operations; **[[and]]**

(2) appropriate corrective actions and crash reduction countermeasures, including a redesign of the road network that are consistent with the United States Department of Transportation's best practices and the County's Vision Zero program;

(3) prior collisions in the vicinity; and

(4) secondarily, the review may include changes to safety-related outreach and education programs, if warranted.

Decision Point: Whether to accept the amendments proposed by the Executive branch, as stated above?

Next Steps: Whether the TE Committee recommends Bill 11-23, as amended, for enactment?

Bill No. 11-23
Concerning: Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan (The Safe Street Act of 2023)
Revised: 2/23/2023 Draft No. 3
Introduced: February 28, 2023
Expires: December 7, 2026
Enacted:
Executive:
Effective:
Sunset Date: None
Ch. ____, Laws of Mont. Co. ____

COUNTY COUNCIL
FOR MONTGOMERY COUNTY, MARYLAND

Lead Sponsor: Council President Glass
Co-Sponsors: Councilmembers Luedtke, Stewart, Katz, Fani-González, and Council Vice-President Friedson, and Councilmembers Jawando, Balcombe, Mink, and Sayles

AN ACT to:

(1) require an infrastructure review for pedestrian-related collisions within a County's school zone;
(2) prohibit a driver of a motor vehicle from making a right turn on a red at certain intersections;
(3) require certain traffic control devices at crosswalks in the County's downtown and town center areas;
(4) require the County Executive to provide an automated traffic enforcement plan; and
(5) generally amend the law regarding motor vehicles and traffic control.

By amending
Montgomery County Code
Chapter 31, Motor Vehicles and Traffic
Section 31-9A

By adding
Montgomery County Code
Chapter 31, Motor Vehicles and Traffic
Sections 31-9C and 31-9D

Boldface	*Heading or defined term.*
Underlining	*Added to existing law by original bill.*
[Single boldface brackets**]**	*Deleted from existing law by original bill.*
Double underlining	*Added by amendment.*
[[Double boldface brackets**]]**	*Deleted from existing law or the bill by amendment.*
* * *	*Existing law unaffected by bill.*

The County Council for Montgomery County, Maryland approves the following Act:

Sec. 1. Short Title.

This Act may be cited as "The Safe Streets Act of 2023."

Sec. 2. Sections 31-9A is amended and 31-9C and 31-9D are added as follows:

31-9A. Speed Monitoring Systems Authorized; traffic infrastructure review.

(a) *Definitions.* In this Section, the following words have the meanings indicated:

School zone means an area within a half-mile radius of any school established by the State Highway Administration or the County pursuant to the Maryland Transportation Code § 21-803.1.

* * *

(e) *Traffic infrastructure review within a school zone - required.* The Department of Transportation must coordinate with the Montgomery County Public Schools to conduct a traffic infrastructure review of each collision that:

(1) occurs on a County road;

(2) involves a student going to or from school; and

(3) occurs in a designated school zone or on school property during arrival or dismissal times.

(f) *Contents of the traffic infrastructure review.* The review under subsection (e) must identify:

(1) any deficiencies in engineering, traffic control, and traffic operations; and

(2) appropriate corrective actions and crash reduction countermeasures that are consistent with the United States Department of Transportation's best practices and the County's Vision Zero program.

(g) The Department of Transportation must:

(1) complete the traffic infrastructure review within 6 months after an injury or fatality has occurred; and

(2) post the contents of the review on the County's website.

31-9C. Traffic Control Signals and Devices.

(a) *Legislative findings.* The County Council finds and declares that:

(1) In 2016, the Montgomery County Council passed Resolution No. 18-390 supporting Vision Zero and the policies and investments necessary to achieve it by 2030. Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries while increasing safe, healthy, and equitable mobility for all.

(2) Progress has been made to reduce injuries and deaths on our roadways due to more sidewalk installations, dedicated bike lanes, automated traffic enforcement, and other traffic calming techniques that decrease safety risks for non-motorists and motorists alike. While we have made advancements in our safety investments for pedestrians and cyclists in the County, residents in our equity-emphasis areas are still more likely to experience an injury or fatality on our roads.

(3) Since 2020, 41 pedestrians and bicyclists have been killed by motorists, and over 1,400 have been injured. In 2022 alone, 19 non-motorists died and 574 were hit.

(4) Since 2015, 64% of all pedestrian-involved crashes occurred at intersections. For bicyclists, 74% of all incidents occurred at intersections.

(5) Ensuring the health and safety of 1.1 million residents will continue to be a top priority for the Montgomery County

government. By implementing evidence-based measures and maximizing resources to areas in critical need, more lives can be saved.

(b) *Definitions.* As used in this Section:

Department means the Department of Transportation.

Director means the Director of Transportation or the Director's designee.

Downtown area has the same meaning as stated in Section 49-31.

Leading pedestrian interval means a traffic control device that:

(1) allows a pedestrian to establish a presence in the crosswalk before vehicles are given a green indication; and

(2) has specifications in accordance with the most recent edition of the Manual on Uniform Traffic Control Devices for Highways and Streets.

Town center area has the same meaning as stated in Section 49-31.

(c) *Signage - required.* The Department must erect signage that indicates "No Right Turn on Red" at the intersection of a County road located:

(1) in a downtown area; and

(2) in a town center area.

(d) *Right turn on red – prohibited*. A driver of a motor vehicle must not make a right turn on a red signal as marked by a posted sign under subsection (c).

(e) *Leading pedestrian interval – required.* The Director must install or cause to be installed a leading pedestrian interval at every crosswalk of a County road located:

(1) in a downtown area; and

(2) in a town center area.

31-9D. Automated Enforcement Action Plan.

(a) The County Executive, or the Executive's designee, must transmit to the Council an automated enforcement action plan that includes:

(1) an explanation of the plan, the goals, and the strategies to increase automated enforcement cameras:

(A) at red traffic lights;

(B) stop signs; and

(C) speed monitoring devices;

(2) a recommended number of automated enforcement cameras, by camera type, that should be deployed in the County to achieve appropriate levels of enforcement and related traffic safety results;

(3) a timeline for deploying the recommended number of cameras, including the number of additional cameras to be deployed, by camera type and by fiscal year;

(4) the amount of funding necessary, in addition to what has been authorized as of the date of the plan's publication, by fiscal year, to attain the target number of cameras; and

(5) any other necessary recommendations for consideration.

(b) *Annual plan*. The plan must be updated and resubmitted to the Council annually.

Sec. 3. Transition; effective date.

The County Executive must provide an automated enforcement action plan as required under Section 31-9D within 180 days after the enactment of this Act. Sections 31-9A and 31-9C, as added by Section 2 of this Act, take effect on July 1, 2025.

Climate Assessment

Office of Legislative Oversight

Bill 11-23: Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan

SUMMARY

The Office of Legislative Oversight (OLO) anticipates Bill 11-23 could have a positive impact on the County's contribution to addressing climate change as the provisions of the Bill are intended to encourage safer streets for all users, which can encourage more active transportation (I.e., walking, cycling) and lead to less dependance on automobiles. This lowered dependence could have a co-benefit of lowered greenhouse gas emissions associated with transportation and enhanced community resilience. However, the significance of this impact is indeterminate.

BACKGROUND AND PURPOSE OF BILL 11-23

Vision Zero is a strategy to ultimately eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all. Since its inception in Europe in the 1990s, a growing number of jurisdictions in the United States have adopted Vision Zero action plans.[1] Montgomery County adopted its own action plan in 2016 and outlines the following goals:

> Using data-informed and equitable approaches, Montgomery County will systematically update the roadway network to create complete, safe streets and build a culture of safety through purposeful campaigns and engagement to eliminate serious and fatal collisions by 2030.[2]

Bill 11-23 proposes the following actions to advance the County's Vision Zero goals:

1) require an infrastructure review for pedestrian-related collisions within a County's school zone;
2) prohibit a driver of a motor vehicle from making a right turn on a red at certain intersections;
3) require certain traffic control devices[3] at crosswalks in the County's downtown and town center areas;
4) require the County Executive to provide an automated traffic enforcement plan; and
5) generally amend the law regarding motor vehicles and traffic control.

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan (The Safe Streets Act of 2023) was introduced by the Council on February 28, 2023.[4]

METHODOLOGIES, ASSUMPTIONS, AND UNCERTAINTIES

Methodology. OLO conducted a literature review of multi-modal transportation, Complete Streets, Vision Zero and their impacts on greenhouse gas emissions and community resilience, to understand the impacts of the actions proposed by Bill 11-23. OLO also spoke with County staff with expertise on Vision Zero and related initiatives, such as Complete Streets.

Assumptions. The actions proposed by Bill 11-23 could encourage constituents to use other modes of transportation besides automobiles, which could lead to a decrease in automobile trips in the County and a decrease in greenhouse gases associated with transportation. Achieving Vision Zero goals also enhances community resilience by creating safer and increased access to active and public transportation options, particularly in equity emphasis areas.

Uncertainties. There are a few uncertainties associated with the analysis of Bill 11-23: (1) Whether actions proposed by this bill will change the behavior of constituents in choosing to walk, bike, or ride public transit instead of traveling by automobile; and (2) The extent to which actions proposed by the bill will reduce pedestrian and cyclist-involved crashes at intersections.

COMPLETE, SAFE STREETS AS A STRATEGY TO DECREASE GREENHOUSE GAS EMISSIONS AND ENHANCE COMMUNITY RESILIENCE

Complete Streets are a way to create safer and more accessible streets for all users, but especially for pedestrians, cyclists, and transit riders. Complete Streets are designed to be safer for all roadway users and have safety features for walkers and bikers, such as traffic control devices like: (1) eliminating right turns on red at certain intersections; and (2) using leading pedestrian intervals, which allows pedestrians to enter and establish themselves in a crosswalk intersection before vehicles are given a green light.[5]

Complete Streets are also an important tool in the County's Vision Zero plan.[6] Research shows that encouraging other modes of transportation besides automobiles reduces both vehicle miles traveled and vehicles per capita.[7] This decrease in automobile dependency can lead to a decrease in greenhouse gas emissions associated with transportation.[8]

Greenhouse Gas Emissions. Carbon dioxide (CO2) emissions associated with transportation makes up about 42% of all County greenhouse gas emissions, according to 2018 data collected by the Metropolitan Washington Council of Governments (COG). This is due in part to automobile dependency in the County, as according to survey data from 2016, more than 65% of commuters chose to drive alone.[9] Reducing private

vehicle trips is listed as a needed action to meet the County's CO2 reduction goals, as outlined in the County's Climate Action Plan.[10]

By implementing policies that encourage more active transportation (i.e., walking, cycling) through improving safety and infrastructure, it can lead to less dependence on automobiles as the primary mode of transportation, which in turn can lead to reduced greenhouse gas emissions associated with transportation.[11]

Community Resilience. Equity emphasis areas (EEAs) in the County, which have higher concentrations of BIPOC and low-income individuals, are disproportionately impacted by serious and fatal crashes. EEAs make up only 7% of land and 14% of roadway miles in the County but contain 30% of all serious and fatal roadway crashes.[12] This is due to structural and environmental racism in the allocation of public and environmental goods, which has led to less green space and less safe infrastructure for active transportation, such as a lack of sidewalks, intersections and crosswalks located on multilane, high-speed highways in predominantly BIPOC and low-income communities.[13]

Improving infrastructure and traffic patterns to promote safer active transportation in the County, especially in EEAs, can enhance community resilience. Safer access to additional modes of transportation increases access to stores, doctor offices, and other destinations, thus improving community resilience.[14] More active modes of transportation can also promote physical activity and reduce health disparities.[15]

Further, for improvements in recovering from climate shocks, such as extreme weather events, increased access to transportation routes and services enable communities to access evacuation routes, rescue services, and other resources during an emergency. This is especially critical for communities where fewer families have access to a vehicle and depend on walking, cycling, or public transportation for travel.[16]

Conclusions. Overall, reducing automobile dependency and increasing access to resources such as public transit stops, grocery stores, work, and health care facilities via active transportation can enhance community resilience and lead to a reduction in greenhouse gas emissions associated with transportation in the County.[17] However while some studies have shown a causal link between increased infrastructure and policies that encourage multi-modal transportation, some experts suggest policies encouraging more active and public transportation alone may not have the intended effect of shifting away from personal vehicle use or reducing GHG emissions.[18] Achieving these outcomes may require a comprehensive plan with policies that specifically target a decrease in personal vehicle use (i.e., congestion pricing) and make active or public transportation the easier, more convenient choice.[19]

Anticipated Impacts

The purpose of Bill 11-23 is to advance the County's Vision Zero goals by eliminating serious and fatal crashes through specific transportation initiatives, including prioritizing student safety in school zones, providing more access for pedestrians at crosswalks, prohibiting right turns on red in certain intersections, and requiring a plan for increased automated traffic enforcement.

These initiatives are meant to update the roadway network to create safe streets and increase safety for pedestrians and cyclists, particularly in equity-emphasis areas where constituents are more likely to experience an injury or fatality as a pedestrian and/or bicyclist. Increasing safety and access for pedestrians and cyclists can encourage more constituents to choose these modes of travel, rather than individual automobile travel, which could lead to a decrease in greenhouse gas emissions and the enhancement of community resilience.

OLO anticipates Bill 11-23 could have a positive impact on the County's contribution to addressing climate change as the provisions of Bill 11-23 are intended to encourage safer streets for all users, which can lead to less dependence on automobiles. This lowered dependence could have co-benefits of lowered greenhouse gas emissions associated with transportation and enhanced community resilience. However, the significance of this impact is indeterminate.

Recommended Amendments

The Climate Assessment Act requires OLO to offer recommendations, such as amendments or other measures to mitigate any anticipated negative climate impacts.[20] OLO does not offer recommendations or amendments as Bill 11-23 could have a positive, indeterminant impact on the County's contribution to addressing climate change, including the reduction and/or sequestration of greenhouse gas emissions, community resilience, and adaptative capacity.

Caveats

OLO notes two caveats to this climate assessment. First, predicting the impacts of legislation upon climate change is a challenging analytical endeavor due to data limitations, uncertainty, and the broad, global nature of climate change. Second, the analysis performed here is intended to inform the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the bill under consideration.

PURPOSE OF CLIMATE ASSESSMENTS

The purpose of the Climate Assessments is to evaluate the anticipated impact of legislation on the County's contribution to addressing climate change. These climate assessments will provide Council with a more thorough understanding of the potential climate impacts and implications of proposed legislation, at the County level. The scope of the Climate Assessments is limited to the County's contribution to addressing climate change, specifically upon the County's contribution to greenhouse gas emissions and how actions suggested by legislation could help improve the County's adaptative capacity to climate change, and therefore, increase community resilience.

While co-benefits such as health and cost savings may be discussed, the focus is on how proposed County bills may impact GHG emissions and community resilience.

CONTRIBUTIONS

OLO staffer Kaitlyn Simmons drafted this assessment.

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[1] Vision Zero Homepage, Vision Zero Network, Accessed 3/6/23
[2] Introduction Staff Report for Bill 11-23, Montgomery County Council, Introduced February 28, 2023.
[3] Certain traffic control devices include a "leading pedestrian interval" (LPI), which gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication.
[4] Introduction Staff Report for Bill 11-23, Montgomery County Council, Introduced February 28, 2023.
[5] "Complete Streets", U.S. Department of Transportation, Accessed 3/8/23
[6] "Complete Streets Design Guide", Montgomery Planning, Accessed 3/8/23.
[7] "Automobile Dependency as a Barrier to Vision Zero, Evidence from the States in the USA", Ahangari, H., Atkinson-Palombo, C., and Garrick, N. W., 8/12/17.
[8] "Core Elements for Vision Zero Communities", Vision Zero Network, 11/2018.
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[10] "Montgomery County Action Plan", Montgomery County Government, 06/2021
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[12] "Vision Zero 2030 Action Plan" Montgomery County Government, FY 22-23 Work Plan.
[13] "Socioeconomic and Racial Disparities of Sidewalk Quality in a Traditional Rust Belt City", Rajaee, M., Echeverri, B., Zuchowicz, Z., Wiltfang, K., and Lucarelli, J., 11/19/21., , "Equity Emphasis Areas for TPB's Enhanced Environmental Justice Analysis", Metropolitan Washington Council of Governments", Accessed 3/9/23, "White Men's Roads through Black Men's Homes: Advancing Racial Equity Through Highway Reconstruction", Archer, D., 3/10/20
[14] "Climate Change and Environmental Planning: Working to Build Community Resilience and Adaptive Capacity in Washington State, USA.", Saavedra, C. and Budd, W., 07/2009.
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[16] "Community Resilience Indicator Analysis: Commonly Used Indicators from Peer-Reviewed Research: Updated for Research Published 2003-2021.", Federal Emergency Management Agency, 09/22.
[17] "Promoting Physical Activity and Reducing Climate Change: Opportunities to Replace Short Car Trips with Active Transportation.", Maibach, E., Steg, L., and Anable, J., 10/2009.
[18] "Evaluating the Impacts of New Walking and Cycling Infrastructure on Carbon Dioxide Emissions from Motorized Travel: A Controlled Longitudinal Study", Brand, C., Goodman, A., and Ogilvie, D., 9/1/2014.
[19] "Case Study Series: Multi Modal Transportation: Making the Link Between Climate Action and Road Safety", Parachute Vision Zero, 01/2021.

[20] Bill 3-22, Legislative Branch – Climate Assessments – Required, Montgomery County Council, Effective date October 24, 2022

Economic Impact Statement

Montgomery County, Maryland

Bill 11-23 Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan

SUMMARY

The Office of Legislative Oversight (OLO) anticipates that enacting Bill 11-23 would have an overall positive impact on economic conditions in the County in terms of the Council's priority indicators. OLO expects the Bill to induce pedestrian and bicycle infrastructure development in certain downtown and town center areas in the County that otherwise would not occur in the absence of the policy change. Businesses contracted to carry out this development likely would experience increased business income. Moreover, by improving pedestrian and bicycle access to certain areas, the Bill likely would increase income for retail and food service businesses. The Bill may also reduce vehicle expenses and increase employment opportunities for certain residents. Though generally positive, the Bill could have negative economic impacts for certain auto-focused businesses.

BACKGROUND AND PURPOSE OF BILL 11-23

Vision Zero is a strategy to ultimately eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all. Since its inception in Europe in the 1990s, a growing number of jurisdictions in the United States have adopted Vision Zero action plans.[1] Montgomery County adopted its own action plan in 2016 and outlines the following goals:

> Using data-informed and equitable approaches, Montgomery County will systematically update the roadway network to create complete, safe streets and build a culture of safety through purposeful campaigns and engagement to eliminate serious and fatal collisions by 2030.[2]

Bill 11-23 proposes the following actions to advance the County's Vision Zero goals:

1) require an infrastructure review for pedestrian-related collisions within a County's school zone;
2) prohibit a driver of a motor vehicle from making a right turn on a red at certain intersections;
3) require certain traffic control devices[3] at crosswalks in the County's downtown and town center areas;
4) require the County Executive to provide an automated traffic enforcement plan; and

[1] Vision Zero Homepage.
[2] Introduction Staff Report for Bill 11-23.
[3] Certain traffic control devices include a "leading pedestrian interval" (LPI), which gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication.

5) generally amend the law regarding motor vehicles and traffic control.

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan (The Safe Streets Act of 2023) was introduced by the Council on February 28, 2023.[4]

INFORMATION SOURCES, METHODOLOGIES, AND ASSUMPTIONS

Per Section 2-81B of the Montgomery County Code, the purpose of this Economic Impact Statement is to assess, both, the impacts of Bill 11-23 on residents and private organizations in terms of the Council's priority economic indicators and whether the Bill would have a net positive or negative impact on overall economic conditions in the County.[5]

To assess Bill 11-23's impacts on the Council's priority economic indicators, OLO performs a qualitative assessment based on the following source of information:

- Jamey Volker and Susan Handy, "Economic impacts on local businesses of investments in bicycle and pedestrian infrastructure: a review of the evidence," *Transport Reviews*, 41:4 (2021): 401-431.

The core assumption made in this analysis is that Bill 11-23 likely would result in creating and/or improving pedestrian and bicycle infrastructure[6] in ways that may advance the County's Vison Zero goals. Indeed, the Bill would require certain improvements, namely prohibiting a driver of a motor vehicle from making a right turn on a red at certain intersections and require certain traffic control devices at crosswalks. Moreover, its other requirements – performing infrastructure reviews for pedestrian-related collisions within a County's school zone and developing an automated traffic enforcement plan – may also induce further pedestrian and infrastructure development by the County.

This analysis does not account for any economic impacts associated with reduced fatalities and injuries the Bill may cause.

VARIABLES

The primary variables that would affect the economic impacts of Bill 11-23 are the following:

- Number and size of pedestrian and bicycle infrastructure development; and
- Quality of pedestrian and bicycle access to local businesses.

[4] Introduction Staff Report for Bill 11-23.
[5] Montgomery County Code, Sec. 2-81B.
[6] Pedestrian infrastructure includes sidewalks, pedestrian crossings, pedestrian seating, landscaping of the pedestrian space, and other amenities designed to support active travel. Bicycle infrastructure includes bicycle paths, lanes, boulevards, parking and other amenities. Volker and Handy, "Economic Impacts on Local Businesses of Investments in Bicycle and Pedestrian Infrastructure."

IMPACTS

WORKFORCE ▪ TAXATION POLICY ▪ PROPERTY VALUES ▪ INCOMES ▪ OPERATING COSTS ▪ PRIVATE SECTOR CAPITAL INVESTMENT ▪ ECONOMIC DEVELOPMENT ▪ COMPETITIVENESS

Economic Impacts of Bicycle/Pedestrian Infrastructure

OLO examined a 2021 review of the research literature on the economic impacts to local businesses of new or enhanced bicycle and pedestrian infrastructure. The authors reviewed 23 peer-reviewed and non-peer-reviewed studies,[7] focusing on the U.S. and Canada, that either compared consumer spending pedestrians/bicyclists and automobile users or quantified the economic impact to local businesses following the development of bicycle or pedestrian infrastructure. They drew the following conclusions based on the current state of research on the topic:

- Bicycle and pedestrian infrastructure likely do not reduce net consumer spending at local businesses by hindering motorists from accessing businesses.
- Bicycle and pedestrian infrastructure development – even where vehicular travel lanes or parking are reduced – likely provides a positive economic benefit to local retail and food service businesses, particularly in terms of the number of visiting customers and business sales.
- Some studies indicate that auto-focused businesses, like gas stations and auto repair shops, may experience reduced sales.

Businesses, Non-Profits, Other Private Organizations

OLO anticipates that enacting Bill 11-23 would have positive economic impacts on certain private organizations in the County in terms of the Council's priority indicators.

By creating and improving pedestrian and bicycle infrastructure, the Bill likely would impact three business groups:

- businesses contracted by the County to create or improve bicycle and pedestrian infrastructure;
- retail and food service businesses near bicycle and pedestrian infrastructure; and
- auto-focused businesses.

Businesses contracted by the County (prime and subcontractors) likely would experience increased business income. Depending on the size of the projects, they may increase the size of their workforces.

Based on the 2021 review described above, the Bill likely would increase customer visits and sales for certain retail and food service businesses near new or improved pedestrian and bicycle infrastructure. Holding all else equal, higher sales would increase net business income. Depending on the magnitude of this effect, certain businesses hire more workers.

While the policy change likely would economically benefit certain contractors and local businesses, Bill 11-23 could negatively impact auto-focused businesses. By improving pedestrian and bicycle access to certain downtown and town center areas in the County, the Bill could reduce consumer need for proximate auto-focused businesses. If sales to these businesses decrease, they likely would experience lower business incomes.

[7] Authors included non-peer-reviewed studies due to the limited number of peer-reviewed studies on the topic.

There is some evidence that pedestrian and bike infrastructure development increase commercial property values. However, given mixed findings in the literature, OLO is unable to anticipate whether Bill 11-23 would have this effect.

Beyond these potential impacts, OLO does not expect the Bill to affect private organizations in terms of the Council's other priority indicators.

Residents

OLO anticipates that enacting Bill 11-23 would have positive economic impacts on certain residents in the County in terms of the Council's priority indicators. By improving pedestrian and bicycle access to certain local businesses, Bill 11-23 may provide residents with greater transportation flexibility. Certain residents may reduce expenses associated with vehicle transportation. Moreover, residents employed by businesses that increase workforces more than they otherwise would in the absence of the Bill likely would experience increases in household income.

Beyond this potential impact, OLO does not expect the Bill to affect residents in terms of the Council's other priority indicators.

Net Impact

OLO anticipates Bill 11-23 would have a positive impact on overall economic conditions in the County in terms of the Council's priority indicators. As described above, by improving pedestrian and bicycle access to certain local businesses, the Bill likely would increase income for certain business contracted by the County to develop pedestrian and bicycle infrastructure that otherwise would not occur and retail and food service businesses near these infrastructure developments. Moreover, the Bill may reduce vehicle expenses and increase employment opportunities for certain residents. Although the Bill may negatively impact certain auto-focused businesses, OLO expects the policy change to have an overall positive impact on economic conditions given the strength of evidence on the positive economic impacts of pedestrian and bicycle infrastructure development.

DISCUSSION ITEMS

Not applicable

WORKS CITED

Montgomery County Code. Sec. 2-81B, Economic Impact Statements.

Introduction Staff Report for Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan (The Safe Streets Act of 2023). Introduced on February 28, 2023.

Visionzeronetwork.org, Vision Zero Network.

Volker, Jamey and Susan Handy. "Economic impacts on local businesses of investments in bicycle and pedestrian infrastructure: a review of the evidence." *Transport Reviews*, 41:4 (2021): 401-431.

CAVEATS

Two caveats to the economic analysis performed here should be noted. First, predicting the economic impacts of legislation is a challenging analytical endeavor due to data limitations, the multitude of causes of economic outcomes, economic shocks, uncertainty, and other factors. Second, the analysis performed here is intended to *inform* the legislative process, not determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the Bill under consideration.

AUTHOR

Stephen Roblin (OLO) prepared this report.

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MONTGOMERY COUNTY COUNCIL
ROCKVILLE, MARYLAND

ANDREW FRIEDSON
COUNCILMEMBER
DISTRICT 1

MEMORANDUM

March 24, 2023

TO: Council President Evan Glass, Chair, T&E Committee
Councilmember Marilyn Balcombe
Councilmember Kate Stewart

FROM: Council Vice President Andrew Friedson

SUBJECT: Proposed Amendments to The Safe Streets Act of 2023

Thank you, Council President Glass, for your leadership on this sorely needed legislation and for your past efforts to improve pedestrian and bicyclist safety in communities across our county.

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan, also known as The Safe Streets Act of 2023, contains a provision that requires the Montgomery County Department of Transportation to conduct an infrastructure review of student-involved collisions within the County's school zones. This provision would create a process to vastly improve the safety of our students as they walk, bike, and roll to school and make valuable information regarding the circumstances of collisions and potential remedies available to the public in a timely manner. However, I believe that there is more that we can do within our power as a county to improve safety for our students and all our road users.

We heard from residents and advocates who testified at the Council public hearing on March 21 that there are gaps in the proposed infrastructure review requirement that must be filled to create a more comprehensive, informed review process. The infrastructure review requirement proposed in the draft legislation would only apply to student-involved collisions and would not account for collisions involving parents, caretakers, and others who use the roads in a school zone. As Carolyn Wilson of Montgomery County Families for Safe Streets testified on Tuesday, eight of the nine collisions that occurred in January 2023 involving students and school zones are currently outside the scope of the proposed bill. We can and must learn from incidents and tragedies involving non-students so we can respond accordingly with improvements that our community can see and experience when walking, biking, and rolling to school in Montgomery County. To help us make the necessary road safety improvements to avoid future tragedies that threaten student lives and school safety, **I propose an amendment to broaden the scope of the infrastructure review requirement such that it applies to all collisions in school zones regardless of whether the collision was student-involved or occurred during arrival and dismissal times. Furthermore, the infrastructure review requirement**

should apply to all collisions within 100 feet of school bus stops. This provision would have required infrastructure reviews following the tragic deaths of nine-year-old Sophia Chen and 7-year-old Muhammad Haekal Saifullah Elsyaf and the life-altering injuries of 17-year-old Eyal Haddad.

Bill 11-23 also makes strides in improving the safety of non-motorists throughout the County by requiring Leading Pedestrian Intervals (LPIs) at every crosswalk of a County road located in downtown and town center areas. LPIs allow pedestrians or bicyclists to enter the intersection in advance of vehicles travelling in the same direction and are a proven Federal Highway Administration safety countermeasure because they provide pedestrians an opportunity to establish themselves in the crosswalk, making them more visible and limiting potential for conflict. Providing LPIs in areas with high levels of pedestrian activity will improve safety. As such, **I propose expanding the scope of this legislation to require Leading Pedestrian Intervals as the default at every crosswalk of a County road within one block of schools, parks, libraries, community centers, and transit stations in addition to all downtown and town center areas.**

I want to reiterate my thanks to the Council President for his efforts to craft and advance this important legislation. I also want to express my support for this bill's provisions that expand no right turn on red requirements in downtown and town center areas and require the County Executive to establish an automated traffic enforcement plan. I hope the Committee will consider the proposed amendments as welcomed improvements to a bill that helps us create a county where the safety of our students and pedestrians are prioritized. Thank you for your consideration.

CC: Ludeen McCartney-Green, Legislative Attorney, Montgomery County Council

OFFICE OF THE COUNTY EXECUTIVE

Marc Elrich
County Executive

Richard S. Madaleno
Chief Administrative Officer

MEMORANDUM

March 24, 2023

TO: The Hon. Evan Glass, Council President and Chair of T&E Committee
Montgomery County Council

FROM: Wade Holland, Vision Zero Coordinator
Office of the County Executive

SUBJECT: Executive Branch Comments and Analysis for Bill 11-23

Executive staff from the Departments of Transportation and Police have reviewed Bill 11-23 - Motor Vehicles and Traffic - Traffic Control Signals, Devices, and Enforcement Action Plan and submit the following amendments and analysis for the County Council's Transportation and Environment (T&E) committee for consideration.

Estimated Crash Reduction for Bill 11-23 as Introduced

Bill 11-23 as introduced is estimated to reduce crashes between motor vehicles and non-motorists (pedestrians and cyclists) by 5 to 10 each year across the downtown and town center County intersections with no turn on red and lead pedestrian intervals. Working with the State Highway Administration to implement these treatments at their intersections would double the annual crash reduction.

New roadways with automated speed enforcement are estimated to have similar results as prior Safe Speed corridors with a 10% reduction in mean speeds, 62% reduction in the likelihood for a motor vehicle traveling more than 10MPH above the posted speed limit, and a 39% reduction in the likelihood that a crash results in a serious or fatal injury.[1] Additional red-light cameras will reduce right-angle and left-turn opposite direction crashes by approximately 26% and increase

[1] "Effects of automated speed enforcement in Montgomery County, Maryland, on vehicle speeds, public opinion, and crashes," IIHS, 2016. https://www.iihs.org/topics/bibliography/ref/2097.

rear end crashes by 18%.[2] Because rear end crashes are less severe than right-angle and left-turn crashes, the overall effect of the red-light cameras are reduced injury crashes.

The fiscal, climate, racial equity, and economic impact analyses will be transmitted from the Office of Management and Budget and Office of Legislative Oversight.

Summary of Suggested Amendments

The suggested amendments to Bill 11-23 as introduced are summarized below. Recommended changes to the bill as introduced are enclosed.

Traffic Infrastructure Review for Safe Routes to School

Proposed Amendment	Reason for Amendment
Include holistic recommendations including changes to education and outreach.	Roadway infrastructure is one part of the Safe System and the review should encompass all parts of the system.
Amend the language to clarify that the six month clock starts upon notification of a crash to the Department of Transportation by the relevant law enforcement agency.	This amendment aligns the County program with SHA's timing to review fatal crashes and accounts for longer crash investigations under State law. This will improve consistency of communication among agencies.
Clarify the timing around arrival and dismissal times as 30 minutes before and after the bell.	The current language does not provide a time window and leaves it up to interpretation of when arrival and dismissal times start and end.
Clarify that the reviews are for students involved going to and from school using non-motorized (walking, biking, scootering) forms of travel.	The bill as introduced would include any crash including where the student was a passenger in a minor crash with no injuries. Scoping the bill for non-motorized crashes is more in line with the existing SRTS walkshed studies.
Add language referring any crashes not on County maintained roadways to the authority having jurisdiction for the facility.	The County has no control over state and municipal public roads, private roads, private property, or school property. This additional provision would alert the proper authority to the crash and prompt action that authority believes is warranted.

[2] American Association of State Highway and Transportation Officials. Highway Safety Manual. Washington, DC, 2010.

Traffic Control Signals and Devices

Proposed Amendment	Reason for Amendment
Amend the language to require the County Executive or the Executive's designee to provide a plan and cost estimate for expansion of "No Right Turn on Red" and "Leading pedestrian intervals" to include downtown and town center areas and other areas with moderate to high pedestrian volume such as near schools and parks.	This amendment is in line with the automated enforcement action plan in the bill. This would allow MCDOT to review areas where these treatments are most needed, prioritize the roll out, provide transparency in the roll out, and partner with the State Highway Administration to potentially change more signals than required under the bill as introduced.

Automated Enforcement Action Plan

Proposed Amendment	Reason for Amendment
Amend the language to require the plan to include any automated enforcement technology currently approved for use in Maryland and Montgomery County.	This amendment will help future proof the bill by not having to alter the County Code when new automated technology is approved for use and should be included in the plan.

Enclosures: Suggested Amendments for Bill 11-23 as Introduced
Analysis of Traffic Safety Signal Treatments
Analysis of School Age Pedestrians and Cyclists Struck near Public Schools

cc: The Hon. Marilyn Balcombe, Councilmember, Montgomery County Council
The Hon. Kate Stewart, Councilmember, Montgomery County Council
Ludeen McCartney-Green, Legislative Attorney, Montgomery County Council
Glenn Orlin, Senior Analyst, Montgomery County Council
Dr. Earl Stoddard, Assistant Chief Administrative Officer, CEX
Chris Conklin, Director, MCDOT
Marcus Jones, Chief, MCPD

Sec. 1. Short Title.

This Act may be cited as "The Safe Streets Act of 2023."

Sec. 2. Sections 31-9A is amended and 31-9C and 31-9D are added as follows:

31-9A. Speed Monitoring Systems Authorized; traffic infrastructure review.

(a) *Definitions.* In this Section, the following words have the meanings indicated:

School zone means an area within a half-mile radius of any school established by the State Highway Administration or the County pursuant to the Maryland Transportation Code § 21-803.1.

* * *

(e) Safe Routes to School ~~*Traffic infrastructure*~~ *review within a school zone - required.* ~~T~~Upon notification of a collision involving a student walking, biking, or using other non-motorized conveyances to or from school by law enforcement, ~~T~~the Department of Transportation must ~~coordinate with the Montgomery County Public School to~~ conduct a ~~traffic infrastructure~~ review of each collision that:

(1) occurs on a County road;

(2) involves a student walking, biking, or using other non-motorized conveyances ~~going~~ to or from school; and

(3) occurs in a designated school zone within 30 minutes of ~~or on school property during~~ arrival or dismissal times on a school day.

(f) *Contents of the Safe Routes to School ~~traffic infrastructure~~ review.* The review under subsection (e) must identify:

(1) any deficiencies in engineering, traffic control, and traffic operations; and

(2) appropriate corrective actions and crash reduction Countermeasures, including redesign of the road network and

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changes to safety-related outreach, that are consistent with the United States

~~26~~25 Department of Transportation's best practices and the County's

~~27~~ Vision Zero program, if warranted.

26

27 (g) For non-County maintained roadways, the Department of Transportation will refer crashes occurring in these locations to the authority having jurisdiction for the facility.

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(hg) The Department of Transportation must:

(1) complete the Safe Routes to School ~~traffic infrastructure~~ review within 6 months after notification by law enforcement that an injury or fatality has occurred on a County maintained roadway; and

(2) post the contents of the review on the County's website.

31-9C. Traffic Control Signals and Devices.

(a) *Legislative findings.* The County Council finds and declares that:

(1) In 2016, the Montgomery County Council passed Resolution No. 18-390 supporting Vision Zero and the policies and investments necessary to achieve it by 2030. Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries while increasing safe, healthy, and equitable mobility for all.

(2) Progress has been made to reduce injuries and deaths on our roadways due to more sidewalk installations, dedicated bike lanes, automated traffic enforcement, and other traffic calming techniques that decrease safety risks for non-motorists and motorists alike. While we have made advancements in our safety investments for pedestrians and cyclists in the County, residents in our equity-emphasis areas are still more likely to experience an injury or fatality on our roads.

(3) Since 2020, 41 pedestrians and bicyclists have been killed by motorists, and over 1,400 have been injured. In 2022 alone, 19 non-motorists died and 574 were hit.

(4) Since 2015, 64% of all pedestrian-involved crashes occurred at intersections. For bicyclists, 74% of all incidents occurred at intersections.

(5) Ensuring the health and safety of 1.1 million residents will continue to be a top priority for the Montgomery County

government. By implementing evidence-based measures and maximizing resources to areas in critical need, more lives can be saved.

(b) *Definitions.* As used in this Section:

Department means the Department of Transportation.

Director means the Director of Transportation or the Director's designee.

Downtown area has the same meaning as stated in Section 49-31.

Leading pedestrian interval means a traffic control device that:

(1) allows a pedestrian to establish a presence in the crosswalk before vehicles are given a green indication; and

(2) has specifications in accordance with the most recent edition of the Manual on Uniform Traffic Control Devices for Highways and Streets.

Town center area has the same meaning as stated in Section 49-31.

(c) The County Executive, or the Executive's designee, must transmit to the Council a Traffic Control Signals and Devices plan within 270 days of enactment that includes:

(1) A plan to implement "No Right Turn on Red" and "Leading Pedestrian Intervals" in areas such as downtown and town center areas, near major access points to parks, schools, community centers and libraries including identification of locations and reasons where these treatments will not be installed.

(2) A timeline for deploying the recommended expansion of "No Right Turn on Red" and "Leading Pedestrian Intervals" at identified intersections.

(3) the amount of funding necessary, in addition to what has been authorized as of the date of the plan's publication, by fiscal year, to implement "No Right Turn on Red" and "Leading pedestrian intervals" at identified intersections;

(4) outreach and coordination with Maryland Department of Transportation, State Highway Administration for implementing signal changes on state highways; and

(5) any other necessary recommendations for consideration.

(d) *Biannual plan*. The Executive must report on the status of plan

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implementation biannually to the Council.

~~*Signage - required.* The Department must erect signage that indicates~~

~~"No Right Turn on Red" at the intersection of a County road located:~~

~~(1) in a downtown area; and~~

~~(2) in a town center area.~~

~~(d) *Right turn on red - prohibited.* A driver of a motor vehicle must not make a right turn on a red signal as marked by a posted sign under subsection (c).~~

~~(e) *Leading pedestrian interval - required.* The Director must install or cause to be installed a leading pedestrian interval at every crosswalk of a County road located:~~

~~(1) in a downtown area; and~~

~~(2) in a town center area.~~

31-9D. Automated Enforcement Action Plan.

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(a) The County Executive, or the Executive's designee, must transmit to the Council an automated enforcement action plan that includes:

(1) an explanation of the plan, the goals, and the strategies to increase automated enforcement programs approved for use in the County by the County Council. ~~cameras:~~

~~(A) at red traffic lights;~~

~~(B) stop signs; and~~

~~(C) speed monitoring devices;~~

(2) a recommended number of automated enforcement cameras, by camera type, that should be deployed in the County to achieve appropriate levels of enforcement and related traffic safety results;

(3) a timeline for deploying the recommended number of cameras, including the number of additional cameras to be deployed, by camera type and by fiscal year;

(4) the amount of funding necessary, in addition to what has been authorized as of the date of the plan's publication, by fiscal year, to attain the target number of cameras; and

(5) any other necessary recommendations for consideration.

(b) ~~A~~*Bia**nnual plan*. The plan must be updated and resubmitted to the Council bi~~a~~annually.

Sec. 3. Transition; effective date.

The County Executive must provide an automated enforcement action plan as required under Section 31-9D and a Traffic Control Signals and Devices action plan under Section 31-9C within 270~~180~~ days after the enactment of this Act. ~~Sections 31-9A and 31-9C, as added by Section 2 of this Act, take effect on July 1, 2025.~~

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TRAFFIC SIGNAL SAFETY AT INTERSECTIONS

PURPOSE OF THIS DOCUMENT

This document provides an analysis and recommendations for safety treatments at signalized intersections in line with the Vision Zero Action Plan's action P-04 and Bill 11-23 - Motor Vehicles and Traffic - Traffic Control Signals, Devices, and Enforcement Action Plan.

SUMMARY FINDINGS

Prohibiting right-turns-on red in conjunction with leading pedestrian intervals is a proven safety countermeasure that both the County and State have been implementing at appropriate locations as part of Vision Zero.

Use of leading pedestrian intervals with a turn restriction can lower pedestrian injury crashes by more than 13%. Based on the bill requirements that LPIs be installed at County intersections with traffic signals in downtowns and town centers, this policy could reduce pedestrian and cyclists struck in an intersection by 5 crashes per year. To get a higher crash reduction, SHA maintained roadways would need to be included in the LPI rollout. Using all traffic controlled intersections in downtown and town center policy areas, the reduction would be closer to 10 crashes each year however, we cannot predict how many of these crashes would have been serious or fatal.

Prohibiting right-turn-on-red *alone* is highly unlikely to affect the number of serious and fatal crashes in Montgomery County. Studies in other jurisdictions have found prohibiting right-turn-on red can improve pedestrian comfort in terms of reducing vehicle and pedestrian conflicts when drivers enter the crosswalk across their direction of travel in a rolling stop or failing to yield during right turns on green, but may increase conflicts with pedestrians crossing parallel to the movement of traffic in conformance with traffic signal indications.

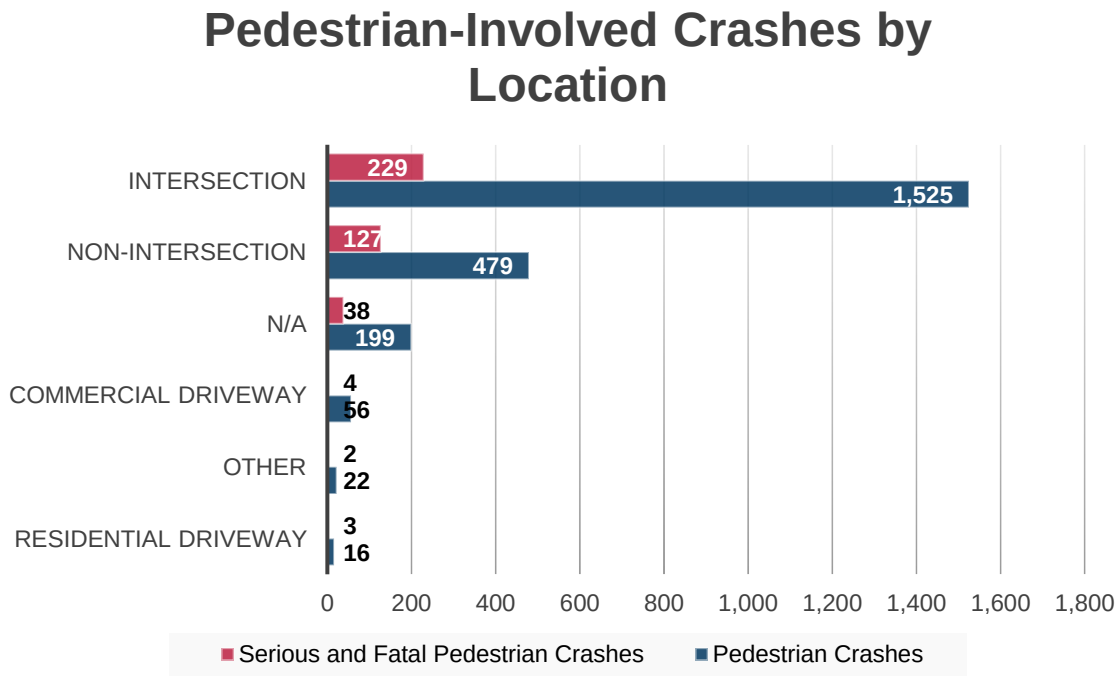
PEDESTRIAN AND BIKE CRASHES AT INTERSECTIONS

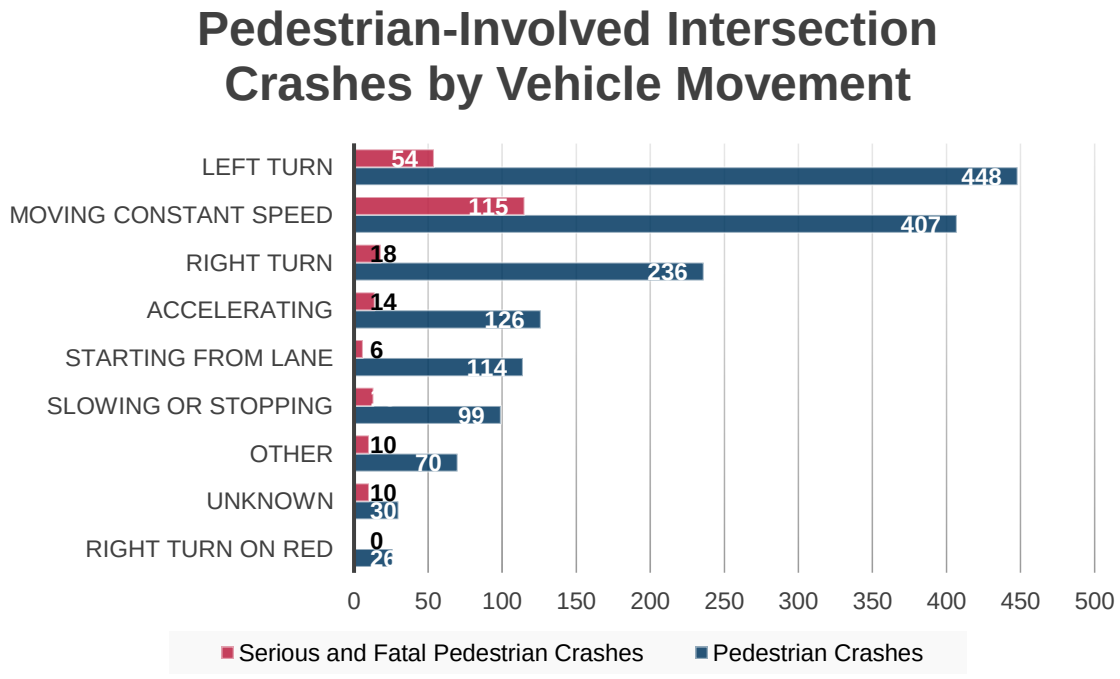
66% of pedestrians and 72% cyclists struck by a motor vehicle from 2016 to 2022 were struck in or in relation[1] to an intersection. Serious and fatal crashes have similar pattern with 57% of pedestrians and 61% of cyclists struck in or relation to an intersection.

There were 26 pedestrians and 19 cyclists struck when the driver of a motor vehicle was making a right turn on red. This represents 0.8% of pedestrian and 2.1% of cyclist crashes. Collisions involving left-turning vehicles and through-traffic movements are far more prevalent and show an dramatically higher occurrence of serious outcomes. Of the 45 right turn on red crashes,

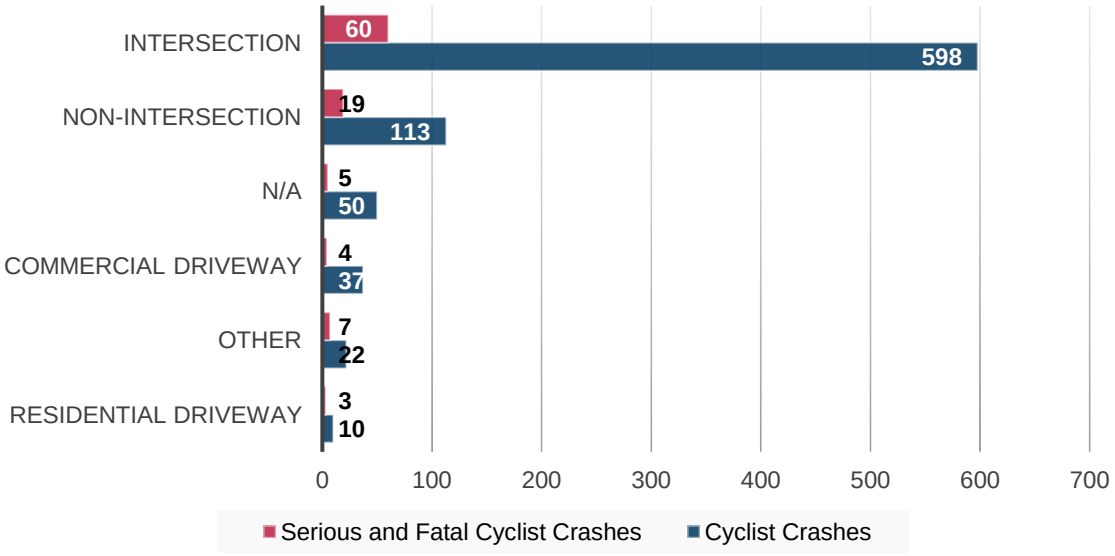
[1] An intersection related crash is a crash that (1) occurs on an approach to or exit from an intersection and (2) results from an activity, behavior, or control related to the movement of traffic units through the intersection.

38% occurred in downtown and town center policy areas. Of the 45 right-turn-on-red crashes, 6 were at a County maintained intersection with the remainder along State Highway Administration controlled intersections.

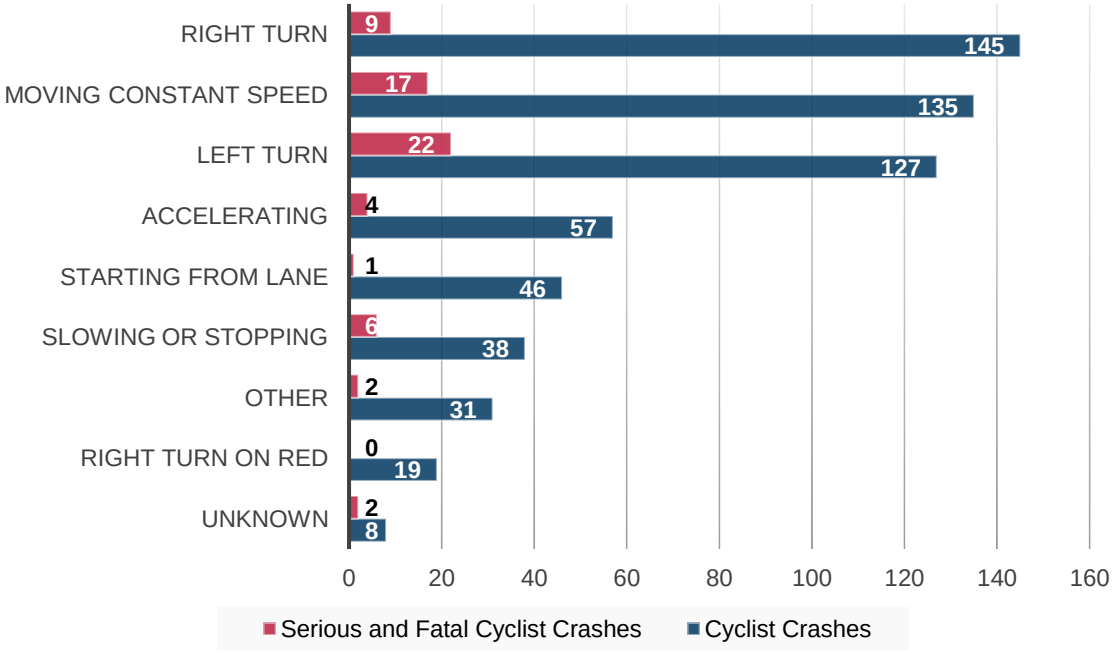


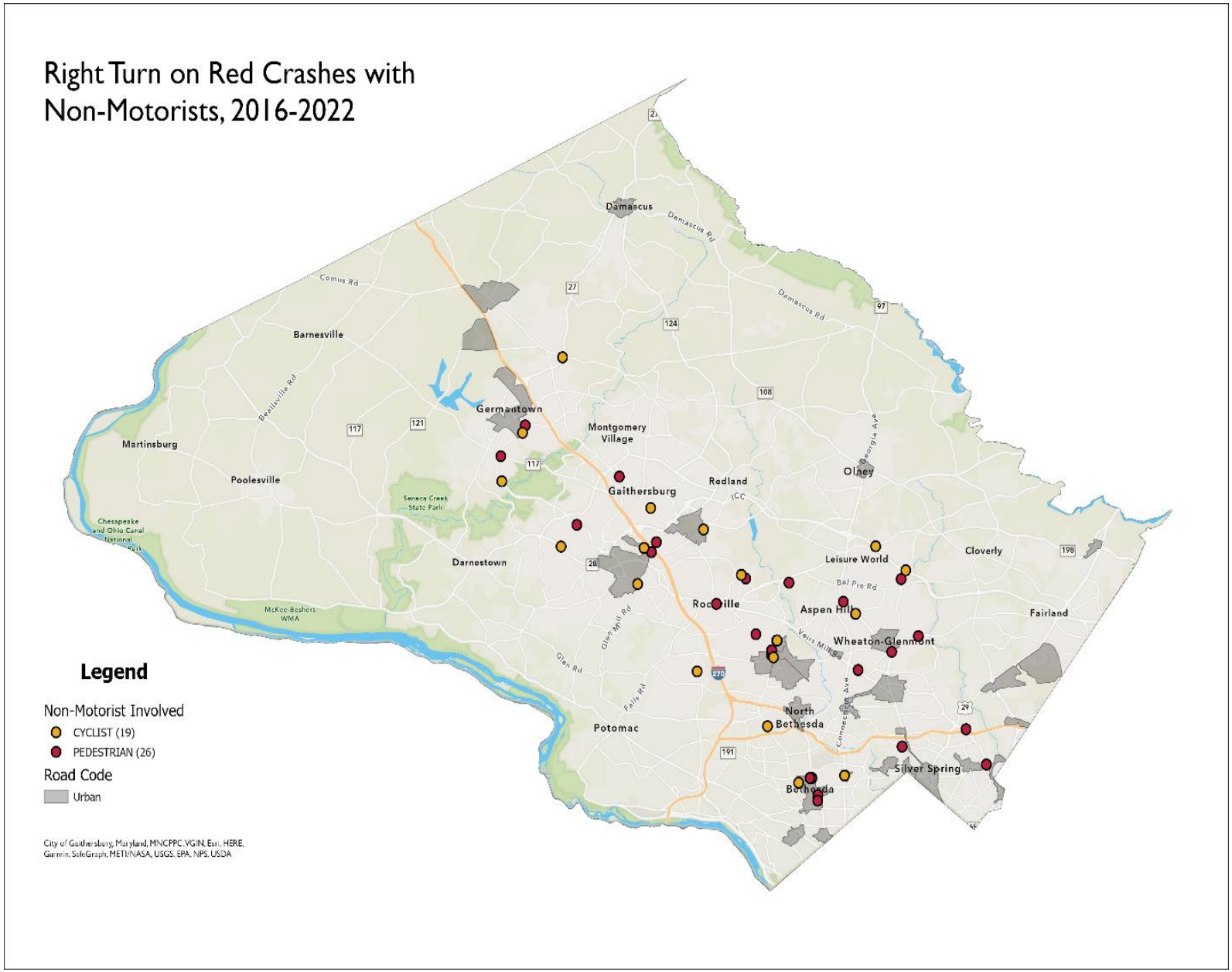


Cyclist-Involved Crashes by Location



Cyclist-Involved Intersection Crashes by Vehicle Movement




Right Turn on Red Crashes with
Non-Motorists, 2016-2022
Damascus
Damascus Rd
Comus Rd
Barnesville
Beallsville Rd
Martinsburg
Poolesville
Germantown
Montgomery
Village
Gaithersburg
Redland
Olney
Georgia Ave
Seneca Creek
State Park
Chesapeake
and Ohio Canal
National
Darnestown
McKee-Beshers
WMA
Leisure World
Cloverly
Bel Pre Rd
Rockville
Aspen Hill
Fairland
Wheaton-Glenmont
Veirs Mill Rd
Glen Mill Rd
Glen Rd
Falls Rd
Potomac
North
Bethesda
Connecticut Ave
Silver Spring
Bethesda
Legend
Non-Motorist Involved
CYCLIST (19)
PEDESTRIAN (26)
Road Code
Urban
City of Gaithersburg, Maryland, MNCPPC, VGIN, Esri, HERE,
Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA

PEDESTRIAN AND CYCLIST CRASHES AT INTERSECTIONS BY POLICY AREA

The following tables summarize crashes where a pedestrian or cyclist was struck by a motor vehicle between 2016 and 2022 in the downtown and town center road code policy areas. Of the 45 crashes where the driver was turning right turn on red between 2016 and 2022, 17 (38%) were in downtown and town centers. All injuries were minor. The urban areas with more than one right turn on red crash involving a pedestrian or cyclists were Bethesda (5), Germantown Town Center (2), Great Seneca Science Corridor (2), Twinbrook (2), and White Flint 2 (2).

INTERSECTION CRASHES FOR LOCAL AND STATE ROADS

The following table shows the number of pedestrians and cyclists struck by a motorized vehicle between 2016 and 2022 on all intersections regardless of local, county, or state control.

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[2]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Bethesda CBD	82	58	4	17	13	1
Burtonsville	0	0	0	1	0	0
Cabin Branch	1	0	0	1	0	0
Chevy Chase Lake	1	1	0	1	1	1
Clarksburg Town Center	2	2	0	3	1	0
Damascus Town Center	2	0	0	0	0	0
Friendship Heights	16	10	0	3	3	0
Germantown Town Center	30	20	1	9	6	1
Glenmont	31	24	1	7	3	0
Great Seneca Science Corridor	24	6	1	21	14	1
Grosvenor	5	1	0	3	1	0
Kensington	11	3	0	5	2	0
Langley Crossroads	13	10	0	1	0	0

[2] Signalized intersection determined from the crash report where the report noted the traffic control was either a “traffic signal” or “flashing traffic signal.”

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[2]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Lyttonsville Purple Line Station	4	4	0	0	0	0
Montgomery Hills	7	3	0	4	1	0
Olney Town Center	10	7	0	4	1	0
Piney Branch	33	23	1	6	4	0
Shady Grove	25	20	0	6	5	1
Silver Spring CBD	121	91	0	24	15	0
Twinbrook	7	6	1	1	1	1
Veirs Mill Urban Road Code	14	7	0	3	0	0
Westbard	6	4	0	4	2	0
Wheaton CBD	51	31	0	6	3	0
White Flint	37	25	0	6	3	0
White Flint 2	21	17	1	13	7	1
White Oak Science Gateway	44	29	0	5	1	0
Woodside Purple Line Station	4	4	0	0	0	0

INTERSECTION CRASHES FOR COUNTY ROADS[3] ONLY

At intersections of County-maintained and State-maintained roadways, the State controls the intersection and any traffic control devices. Because Bill 11-23 only affects County-maintained intersections, the following table provides the same view as the data in the table above, but only for county intersections. Inside the downtown and town center areas, there were 265 pedestrian and 67 cyclist involved crashes at county-maintained intersections. Of the 265 crashes, 202 (76%) were at traffic controlled intersections and 6 involved a right-turn-on red vehicle movement.

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[4]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Bethesda CBD	41	28	2	5	4	0
Burtonsville	0	0	0	0	0	0
Cabin Branch	0	0	0	0	0	0
Chevy Chase Lake	0	0	0	0	0	0
Clarksburg Town Center	1	1	0	1	0	0
Damascus Town Center	0	0	0	0	0	0
Friendship Heights	11	7	0	0	0	0
Germantown Town Center	18	9	0	8	6	0
Glenmont	18	14	0	3	1	0
Great Seneca Science Corridor	12	4	0	12	8	1
Grosvenor	3	1	0	3	1	0
Kensington	1	0	0	1	0	0
Langley Crossroads	1	0	0	0	0	0
Lyttonsville Purple Line Station	0	0	0	0	0	0

[3] County road determined from the crash report where the main roadway is listed as County maintained. This may be an overcount as the crash may be intersection related to the County part of an intersection, but the signal is controlled by State Highway Administration.
[4] Signalized intersection determined from the crash report where the report noted the traffic control was either a “traffic signal” or “flashing traffic signal.”

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[4]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Montgomery Hills	3	0	0	2	1	0
Olney Town Center	2	1	0	0	0	0
Piney Branch	9	3	0	3	3	0
Shady Grove	18	15	0	5	4	1
Silver Spring CBD	43	34	0	7	3	0
Twinbrook	7	6	1	1	1	1
Veirs Mill Urban Road Code	9	3	0	2	0	0
Westbard	4	3	0	1	0	0
Wheaton CBD	15	9	0	3	0	0
White Flint	17	13	0	3	0	0
White Flint 2	13	9	0	5	1	0
White Oak Science Gateway	18	7	0	2	1	0
Woodside Purple Line Station	1	1	0	0	0	0

TRAFFIC VIOLATIONS ISSUED FOR RIGHT-TURN-ON-RED

Violations for making right turns on red where prohibited is governed by Maryland Transportation Article § 21-202(k). This article also covers turns made on overnight flashing red signals. Between 2016 and 2022, Montgomery County Police conducted 403 stops for violating this traffic article. 158 of the 403 (39%) were made in urban road code areas.

Urban Road Code Area	Number of Violations for 21-202(k), 2016-2022
Silver Spring CBD	28
Germantown Town Center	22
Glenmont	17
Great Seneca Science Corridor	14
Piney Branch	13
Wheaton CBD	11
Bethesda CBD	9
White Oak Science Gateway	9
White Flint	5
White Flint 2	5
Olney Town Center	4
Shady Grove	4
Veirs Mill Urban Road Code	4
Clarksburg Town Center	3
Grosvenor	3
Chevy Chase Lake	2
Damascus Town Center	2
Kensington	1
Lyttonsville Purple Line Station	1
Westbard	1

FHWA PROVEN SAFETY COUNTERMEASURES FOR INTERSECTIONS

The US DOT Federal Highway Administration provides a list of twenty-eight countermeasures and strategies that are effective in reducing roadway fatalities and serious injuries. Leading pedestrian intervals (LPIs) are considered a proven countermeasure with a 13% reduction in vehicle-pedestrian crashes at intersections.

Pedestrian/Bicyclist


Bicycle Lanes


Crosswalk Visibility Enhancements


Leading Pedestrian Interval


Medians and Pedestrian Refuge Islands in Urban and Suburban Areas


Pedestrian Hybrid Beacons


Rectangular Rapid Flashing Beacons (RRFB)


Road Diets (Roadway Configuration)


Walkways

Intersections


Backplates with Retroreflective Borders


Corridor Access Management


Dedicated Left- and Right-Turn Lanes at Intersections


Reduced Left-Turn Conflict Intersections


Roundabouts


Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections


Yellow Change Intervals

NTOR AND LPI BACKGROUND

Below summarizes the reasons why jurisdictions utilize no right turn on red and leading pedestrian intervals and the experience other jurisdictions have had with these treatments.

NO TURN ON RED (NTOR)

BACKGROUND FOR ALLOWING RIGHT TURNS ON RED

From FHWA: "A permissible 'Right Turn on Red' (RTOR) was introduced in the 1970s as a fuel savings measure and has sometimes had detrimental effects on pedestrians. While the law requires motorists to come to a full stop and yield to cross street traffic and pedestrians prior to turning right on red, many motorists do not fully comply with the regulations. Motorists are so intent on looking for traffic approaching on their left that they may not be alert to pedestrians on their right. In addition motorists usually pull up into the crosswalk to wait for a gap in traffic, blocking pedestrian crossing movements. In some instances, motorists simply do not come to a full stop."

SAFETY OF RIGHT TURNS ON RED

Crash Modification Factors

- Permitting right-turn-on-red where previously prohibited right-turn-on red:
  - Vehicle/bicycle and Vehicle/pedestrian: 69% increase
  - Right turn crashes with minor and serious injuries: 60% increase
- Prohibit right-turn-on red where previously RToR was allowed:
  - Highway Safety Manual formula for motorist only crashes: $CMF = 0.98^{nprohib}$

Experience from other jurisdictions

DC

- In late 2018, DDOT piloted 100 location for NToR implementation based on the level of pedestrian activity, proximity to pedestrian generators, crash history, and geometric or operational characteristics.
- vehicle-to-vehicle conflicts dropped by 97% after the "no turn on red" signs were installed.
- Number of times drivers failed to yield to pedestrians when the light was red dropped by 92%.
- Drivers yielding to pedestrians when their light was green, with violations dropping by 59%.
- 30% more drivers encroaching on crosswalks likely due to drivers starting to make a turn on red and then realizing it was illegal, so ended up in the crosswalk.
- Four of the 252 approaches to intersections that DDOT monitored, drivers became more likely to enter crosswalks with pedestrians during green lights.

- Improved compliance using R10-11 and R10-11(1) signs as a standard.

San Francisco

- SFMTA posted No Turn on Red signs at over 50 intersections in the Tenderloin to study how they can make streets safer to cross.
- Findings from a before/after study reveal that No Turn on Red (NTOR) restrictions can keep crosswalks clear and reduce close calls on major intersections.
- 92% compliance with vehicles obeying turn restrictions.
- No significant change in the percentage of turning vehicles that yield at the crosswalk to pedestrians on a green light.

GUIDANCE ON NTOR IMPLEMENTATION

Maryland Manual on Uniform Traffic Control Devices (MdMUTCD)

The Maryland Manual on Uniform Traffic Control Devices (MdMUTCD) allows for the implementation of No Turn on Red Signs on roadways and provides the following guidance for determining if NToR should be considered (p. 133):

"No Turn on Red sign should be considered when an engineering study finds that one or more of the following conditions exists:

A. Inadequate sight distance to vehicles approaching from the left (or right, if applicable);
B. Geometrics or operational characteristics of the intersection that might result in unexpected conflicts;
C. An exclusive pedestrian phase;
D. An unacceptable number of pedestrian conflicts with right-turn-on-red maneuvers, especially involving children, older pedestrians, or persons with disabilities;
E. More than three right-turn-on-red accidents reported in a 12-month period for the particular approach; or
F. The skew angle of the intersecting roadways creates difficulty for drivers to see traffic approaching from their left."

Federal Highway Administration

- Prohibiting right turns on red is a simple, low cost measure. Together with a leading pedestrian interval, the signal changes can benefit pedestrians with minimal impacts on traffic. They should be done in locations with substantial pedestrian volume and places where children cross.
- Part-time ROTR prohibitions during the busiest times of the day may be sufficient to address the problem.
- Signs should be clearly visible to right-turning motorists stopped in the curb lane at the crosswalk.

LEADING PEDESTRIAN INTERVALS (LPI)

SAFETY OF LEADING PEDESTRIAN INVERVALS

Crash Modification Factors

- 13% reduction in pedestrian-vehicle crashes at intersections (FHWA study)
- 10% reduction in total crashes (Chicago, IL)
- 19% reduction in pedestrian-vehicle crashes (Chicago, IL)
- 59% reduction in pedestrian-vehicle crashes (State College, PA)

GUIDANCE ON LPI IMPLEMENTATION

NACTO

"Use LPIs at intersections where heavy turning traffic comes into conflict with crossing pedestrians during the permissive phase of the signal cycle. LPIs are typically applied where both pedestrian volumes and turning volumes are high enough to warrant an additional dedicated interval for pedestrian-only traffic."

Los Angeles DOT

1. LPI should be considered at crosswalks controlled by a traffic signal if a. or b. apply:
    a. The WALK phase is actuated.
    b. For crosswalk legs with non-actuated WALK phases, one of the following conditions exist:
        i. There are high volumes of turning vehicles (at least 200 vehicles-per-hour per crosswalk during peak hours).
        ii. The intersection is within 500 feet of a facility that attracts or generates a significant number of vulnerable users (children, seniors, persons with disabilities) such as a school, park, hospital, or senior center.
        iii. The intersection is along a High Quality Transit Corridor (HQTC). A HQTC is defined in the Southern California Association of Governments 2016 Regional Transportation Plan/Sustainable Communities Strategy as a corridor with fixed route bus service with service intervals of 15 minutes or less during peak commute hours. Note that LPI can have adverse impacts for transit routes operating parallel to the crosswalks where LPI is added.
        iv. The intersection's geometry is atypical, resulting in unexpected conflicts and visibility issues.
2. If LPI is implemented for a particular signalized crosswalk leg of an intersection, then it should be implemented for the adjacent parallel leg as well. However, it is not necessary to be implemented for the perpendicular legs since those legs can be considered

independently. Although LPI can be configured within most existing traffic signal phasing plans, specific cases may require the preparation of a new signal plan to revise the phase diagram (e.g., opposed phasing with a shared pedestrian phase) and may require a field modification of the controller. Additionally, when implementing LPI features for a crosswalk whose operation follows protected-permissive left turn (PPLT) phasing serving the left turn across the crosswalk in question, the controller will suppress the LPI feature in cycles when the left-turn arrow is served. The LPI feature will operate normally when the left-turn arrow is not served.

SCHOOL-AGE PEDESTRIANS STRUCK NEAR SCHOOLS

SUMMARY

Bill 11-23 would require the Montgomery County Department of Transportation (MCDOT) to perform an infrastructure review when a student is involved in a collision within a County's school zone. The review must identify "any deficiencies in engineering, traffic control, and traffic operations; and appropriate corrective actions and crash reduction countermeasures that are consistent with the United States Department of Transportation's best practices and the County's Vision Zero program."

Depending on how the final bill is implemented, **expect between 15-25 reviews each year** at the high end. Accounting for marked school zones and crashes directly on MCPS property, this number of reviews required by MCDOT may dip below 15 reviews a year.

SCENARIOS

Below are various scenarios showing the number of historical crashes that occurred within a half mile of a Montgomery County Public School.

All County Government maintained roads and MCPS property

- Average number of peds/bikes ages 6-19 struck with **any or no injury** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 22
- Average number of peds/bikes ages 6-19 struck between the hours of 5AM and 6PM with **any or no injury** within 0.5 miles of a MCPS school building and: 19
- Average number of ped/bikes ages 6-19 struck with **serious or fatal injuries** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 3
- Average number of ped/bikes ages 6-19 struck with **serious or fatal injuries** between the hours of 5AM and 6PM within 0.5 miles of a MCPS school building per year and (2016-2019, 2022): 2

All roads and all off-road crashes

- Average number of peds/bikes ages 6-19 struck with **any or no injury** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 42
- Average number of peds/bikes ages 6-19 struck between the hours of 5AM and 6PM with **any or no injury** within 0.5 miles of a MCPS school building and: 36
- Average number of ped/bikes ages 6-19 struck with **serious or fatal injuries** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 5
- Average number of ped/bikes ages 6-19 struck between the hours of 5AM and 6PM with **serious or fatal injuries** within 0.5 miles of a MCPS school building per year and (2016-2019, 2022): 4

Montgomery County Families for Safe Streets
Montgomery County Council Bill 11-23: Safe Streets Act of 2023
Written Testimony, March 21, 2023

Good Afternoon. I'm here to present testimony on behalf of the Montgomery County Chapter of the organization Families for Safe Streets https://mocofamiliesforsafestreets.org/ . In case you are not familiar with our organization, we are a relatively new chapter, started about two years ago. Our Mission is to provide support and shared community for families and friends of traffic crash victims; to help share stores of the lives of those lost in preventable traffic crashes; to convert these stories into effective advocacy efforts in Montgomery County and the State of Maryland; and to prompt changes that would prevent such tragedies from occurring in the future.

As you can probably imagine from this mission, our organization lives with the reality of the dangers to pedestrians, cyclists, and other vulnerable road users on a daily basis. For example, just last week, on March 16, a 75-year old man was killed while crossing the street on Columbia Pike at Stewart Lane.

Today I'm here to express our organizations support for the Safe Streets Act of 2023, with favorable amendments to include all school-related crashes within the scope of the Safe Routes to School Provision.

First, I want to clearly and unequivocally express our full support for the Automated Traffic Enforcement Plan and the Leading Pedestrian Intervals and No Turn on Red provisions.

Automated Traffic Enforcement Plan: Regarding the first, we strongly encourage the implementation of automated traffic enforcement as it is a critical, effective, and relatively low cost means to reduce traffic death. Human enforcement is not sufficient to achieve traffic speed reduction and running red lights , both of which are necessary to reduce traffic-related deaths and injuries.

Leading Pedestrian Intervals and No Turn on Red: As a pedestrian who lives in the downtown area of Silver Spring where there are currently leading pedestrian intervals and no turn on red at some intersections, I can say from personal experience that these changes make a huge difference to feeling safer when crossing streets in dense urban areas with high traffic volume. It is just simple common sense that if the pedestrian is already in the cross-walk, the visibility to the driver will be greater. Turning right on red creates a hazard by forcing the driver to look to the left for car traffic, while often ignoring to look right, and missing the pedestrians, cyclists, or other vulnerable road users in the cross walk. Eliminating this dangerous practice will reduce the risk to these individuals.

Safe Routes to School Infrastructure Provision: MoCoFSS feels strongly that the Safe Routes to School Infrastructure Provision as written is critical to include in the Safe Streets Act of 2023, but does not go far enough. The reality is that many school-related crashes happen outside the

current scope: 8/9 crashes involving students/schools that happened in January would have been outside of the scope of the law as currently written.

The scope must include:
ALL ROADS, state, county, municipal, M-NCPPC (4/9); and
ALL times for crashes in school zones or on school property as well as those involving students going to/from school, before, during, after arrival/dismissal (4/9)

The reasons we take these positions are three-fold:

1) With the narrow scope of the language, everytime a school-related crash happens, it will require determining if it's in or out of scope.
2) While MCDOT only has authority over county roads, our view is that there is no restriction from the County conducting an infrastructure review on state and municipal roads. The County currently implements infrastructure changes on non-county roads and provides input on non-county road design in master planning.
3) While MCDOT has countered that there are insufficient resources to conduct infrastructure reviews for all school-related crashes, we argue that this is the very reason for why these crashes need to be included in the Act. What higher priority does the County have than the safety of our children going/to from schools?

In summary, we strongly support the Safe Streets Act of 2023 with favorable amendments to expand the scope of the Safe Routes to School provision to include ALL school-related crashes.

Thank you for providing me the opportunity to testify today on behalf of the Montgomery County Chapter of Families for Safe Streets.

March 20, 20223

Jamie Herr
[redacted]

Montgomery County Council
Stella Warner Council Office Building
100 Maryland Avenue
Rockville, Maryland 20850

Re: Bill 11-23, Motor Vehicles and Traffic - Traffic Control Signals, Devices, and Enforcement Action Plan (The Safe Streets Act of 2023)

Dear Montgomery County Council:

I am writing to provide comments on the above referenced Safe Streets Act of 2023. First, I want to applaud the County for consideration of this Bill as it is long overdue. The state of street and roadway design and safety in our County is at a crossroads, pun intended. I support the proposed additions of an infrastructure review after any pedestrian related collision, restricting right turns on red at certain intersections, requiring traffic control devices at crosswalks in certain areas and other elements of the Bill. However, the biggest problem with the Bill is that it does not, and cannot, go far enough.

The safety of the County's roadways is not in the hands of those most familiar with the local issues or the most invested in their success. The County has a strong, progressive platform of street and pedestrian safety, but lacks the authority to implement it on the roads that matter most: state highways. If the County Council seriously wants to improve pedestrian and driver safety throughout the County, it is imperative that the County take over ownership/management of all roads controlled by the Maryland State Highway Administration (SHA). The SHA design guidelines and safety procedures are outdated and unresponsive to the rapidly growing urban context of Montgomery County. They are not capable of meeting the needs of our County and people are dying because of it.

I strongly support the above referenced Bill, but just as strongly encourage the County Council to take the next steps to protect all roads, all road users, all pedestrian crossings, and all intersections.

Sincerely,

Jamie Herr

Jamie Herr

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan

I am generally in support of the principle behind the legislation. I am opposed to blanket prohibitions on right turns on red as they increase traffic dwell times, increase carbon emissions and increase vehicle transit times generally.

I am opposed to additional automated traffic enforcement devices as they further the surveillance state, undermine the US Constitution and the penumbras of privacy and are utilized to create profit for private companies. I would support an amendment adding additional funding for police traffic patrol and police traffic enforcement and prohibiting private vendors from profiting from traffic enforcement. Such funding should go directly to the county as an essential governmental function.

I would request that the legislation also consider adding language to control traffic near schools. At Highland Elementary we have a severe problem with parents and teachers entering the parking lot for the parent drop off utilizing the “No Entrance” side and turning left at the “Right Turn Only” exit from the parking lot/parent drop off. I would encourage you to significantly increase traffic fines for violating traffic control devices and signage in school zones. I have witnessed infractions 4 of the last 5 times I have dropped my children off in the last two weeks.

Sincerely,

Jared Hautamaki

[redacted]

[redacted]

To the Members of the Montgomery County Council

I was pleased to read of the efforts led by Evan Glass to ban right turns on red in areas where such turns endanger pedestrians and to lengthen the allowed crossing times at some intersections.
Over a year ago, my husband suffered a massive stroke and is paralyzed. He is living at Sunrise Bethesda on Battery Lane. Everyday, weather permitting, I take him out for a long walk. The stimulation of walking past the shops and restaurants is invaluable. At some intersections, I barely get the wheelchair into the crosswalk before the countdown to finish crossing begins. We have almost been hit several times by drivers turning right on red when our walk sign is on.
Another intersection that poses real danger is the one of Woodmont Avenue and Wisconsin Avenue just past NIH. Drivers coming south on Route 355, where the speed limit is 35, have a right turn lane without any traffic control onto Woodmont, where the speed is 30. There is a small median between lanes on Woodmont. While traffic on the south side of this intersection is controlled by a light, traffic on the north side is not. So pedestrians who have a walk sign are in danger from those cars coming down 355 at 35 mph and turning right without a need to stop. I try to avoid that intersection when I am out walking, but I have seen so many pedestrians almost hit by drivers not expecting anyone in the crosswalk.

Dear Members of the Montgomery County Council,

My name is Michael Larkin and I am a resident of Silver Spring. I support the enactment and strengthening of the Safe Streets Act for county-controlled streets because it is in accordance with our county's Vision Zero goals, and it recognizes that walking and rolling are legitimate forms of transportation.

People walk every day to run errands, grocery shop, and to access public transportation. Sadly, this commonplace activity is more dangerous than it should be. I could point out painful statistics, but I will offer some of my own experiences to explain the perils pedestrians face. On two separate occasions, I was nearly hit by a car while walking to my election worker shift for the Board of Elections in 2022. The first time was a driver turning right on red, and the second time a driver failed to give me the right of way while making a left turn. When a driver almost hit my friend in a crosswalk while visiting me in Silver Spring, the driver said he did not see my friend because he was looking for other cars. Of course, these incidents pale in comparison to the deaths of Miguel and Ana Ortiz, a married couple killed by a driver while walking to their polling station in Gaithersburg.

The need for the Safe Streets Act is clear. No turns on red lights (NTOR) will limit the all too often common occurrence of drivers not paying attention to pedestrians in the crosswalk. The implementation of Leading Pedestrian Interval (LPI) will give pedestrians time to establish their presence in the crosswalk, thereby reducing the probability of crashes due to drivers not seeing pedestrians. This Council should strengthen the LPI provision of the bill because LPI is a proven and prudent safety measure according to research from the Federal Highway Administration. I strongly support the recommendation from the staff at the Planning Board to expand the implementation of LPI to areas outside of downtowns and town centers to include schools, parks, and community centers. These locations generate significant pedestrian activity whether it be students walking to school or residents going to vote because many of these locations are also polling stations. Moreover, improving pedestrian infrastructure is another tool to fight food insecurity in our community. Transportation costs and lack of access to a car play a role in limiting residents ability to buy food or receive help from feeding programs. Improved walkability would help people that want to walk but are faced with unsafe walking conditions.

Enforcement will be important to ensure the Safe Streets Act is not only a dream. There are already places where right on red is banned but drivers ignore or do not see the sign. I strongly urge the Council to hold the County Executive accountable for producing a robust automated enforcement plan of this legislation's provisions. The

County should also consider automatic enforcement or road calming measures where NTOR and LPI are not possible such as at stop signs and marked crosswalks.

Unfortunately, this legislation cannot rectify the dangerous conditions at state-controlled intersections. The Council should adopt the staff recommendation from the Planning Board to convene a working group of the Montgomery County Department of Transportation and State Highway Administration to explore where NTOR and LPI can be implemented at state-controlled intersections.

I recognize drivers face dangers from other drivers and the design of roads. I also know our community has people who make a living by driving. My grandfather was a taxi driver and his earnings partly funded my education. Although he had an attitude at times behind the wheel, my grandfather said while teaching me how to drive that "wheels yield to feet." His admonition to me is good advice for everyone. The Safe Streets Act is a way to implement safety for everybody on our streets.

Thank you for your time and consideration.

Sincerely,

Michael Larkin
Silver Spring, M.D.

ACTION COMMITTEE FOR TRANSIT
Montgomery County Council Bill 11-23: Safe Streets Act of 2023
March 21, 2023

The Action Committee for Transit supports the Safe Streets Act of 2023, with favorable amendments to include all school-related crashes within the scope of the Safe Routes to School provision.

- SAFE ROUTES TO SCHOOL INFRASTRUCTURE REVIEW. We support this provision. However, the scope is far too narrow. Many school-related crashes happen outside the current scope. For example, the current scope of this bill would only include 1 of the 9 crashes involving students/schools that happened in January that we are aware of:

  1. Loiederman Middle School (student): YES
  2. Sherwood High School (student): NO, on a state road
  3. Julius West Middle School (student): NO, outside the school zone, on a city road
  4. Magruder High School (student): NO, outside the school zone (at a school bus stop)
  5. Seneca Valley High School (student): NO, outside the school zone
  6. Waters Landing Elementary School (student): NO, not at arrival or dismissal according to the time on the police report
  7. Wheaton High School (student): NO, not at arrival or dismissal (evening classes)
  8. Wheaton High School (student): NO, on a state road
  9. Landon School (crossing guard): NO, on a state road, no school zone

  When a school-related crash happens, we do not want to have to keep checking the language in the law to determine whether the crash was in scope or out of scope.

  At minimum, the scope must include:

  - *All* roads – state, county, municipal, M-NCPPC
  - *All* times for crashes involving students going to or from school – before, during, and after arrival/dismissal
  - *All* times for crashes in school zones or on school property - before, during, and after arrival/dismissal

  We have heard 2 reasons for the limited scope and disagree with both.

  - Reason: MCDOT only has authority over county roads.
    Our response: There is nothing stopping MCDOT from conducting an infrastructure review on state or municipal roads. Indeed, MCDOT routinely weighs in on design considerations for non-county roads, for example during master planning. MCDOT also implements infrastructure changes on non-county roads, for example the University Boulevard West bus lane project.

- Reason: MCDOT does not have the resources to conduct infrastructure reviews for all school-related crashes.
  Our response: Safe routes to school should be one of the county's highest priorities. If there are so many school-related crashes that MCDOT does not have the resources to conduct infrastructure reviews for all of them, then that is actually an argument *in favor of* amending the bill's scope to include *all* school-related crashes. In addition, it would be helpful to have an estimate from MCDOT about the resources necessary for conducting infrastructure reviews for all school-related crashes. For reference, the recommended FY 2024 operating budget for the Department of Transportation's General Fund is $61,180,870, including 461 full-time positions, 4 part-time positions, and 283.78 FTEs.

- AUTOMATED TRAFFIC ENFORCEMENT PLAN. We support this provision. Enforcement is an important component of Vision Zero. Automated traffic enforcement (speed cameras, red light cameras, stop sign cameras) can be deployed far more effectively and cost-effectively than the equivalent in human enforcement. In addition, we know from experience that the current unsystematic implementation of automated traffic enforcement is inadequate, complicated, and opaque. An automated traffic enforcement plan is the necessary first step toward systematic, county-wide implementation of automated traffic enforcement.

- LEADING PEDESTRIAN INTERVALS AND NO TURN ON RED. We support these two provisions, which go together. According to the US Department of Transportation Federal Highway Administration, they are proven safety countermeasures: "The LPI works to position the pedestrian within the crosswalk thereby decreasing the likelihood of a conflict or crash with a left- or right-turning vehicle ahead of the turning traffic. Agencies will often consider restricting Right Turns on Red (RTOR) in association with LPIs to better control for conflicts with right-turning vehicles." In non-technical language, the LPI reduces the chance that a driver turning right on green will hit a pedestrian who has begun crossing on the walk signal, and no-right-on-red restriction is necessary to reduce the chance that a driver turning right on red will hit a pedestrian who has begun crossing on the LPI. However, even without an LPI, no-right-on-red independently reduces the chance that a driver will turning right on red will hit a pedestrian who has begun crossing on the walk signal. We have provided explanatory diagrams, below.


20000 Century Blvd
Germantown, Maryland
Google Street View
Sep 2019
See latest date
LEADING PEDESTRIAN INTERVAL, ONLY
Red light
Walk signal (LPI)
Walk signal (with or without LPI)


20000 Century Blvd
Germantown, Maryland
Google Street View
Sep 2019
See latest date
NO RIGHT ON RED, ONLY
Green light
Walk signal


20000 Century Blvd
Germantown, Maryland
Google Street View
Sep 2019
See latest date
LPI and NO RIGHT ON RED
Red light
Walk signal with LPI
Walk signal (with or without LPI)

STATEMENT OF RICHARD LEVINE
LOCUST HILL CITIZENS' ASSOCIATION

BEFORE THE MONTGOMERY COUNTY COUNCIL
REGARDING BILL 11-23, THE SAFE STREETS ACT OF 2023

March 21, 2023

President Glass, Vice President Friedson, and Members of the Council: My name is Richard Levine and I am testifying on behalf of the Locust Hill Citizens' Association. Locust Hill is a single-family community bounded by Cedar Lane on the south, Rockville Pike on the west and the arc of the Beltway from Rockville Pike around to Cedar Lane.

Most relevantly for the purpose of this hearing, the central portion of our community has many MCPS students, no sidewalks, and is a direct cut-through route, via Elmhirst Parkway, between Rockville Pike and Cedar Lane. We seek development of automated traffic enforcement of an existing no-left-turn restriction intended to ameliorate this safety hazard and believe such a solution would help protect other communities with turning and prohibited straight-across restrictions.

Because we read bill 11-23's proposed County Code section 31-9D, Automated Traffic Enforcement Action Plan, to have a county-wide focus that goes beyond priority downtown and town center areas, we believe there is an opportunity to further the goals of Vision Zero. Our ask of the Council is simple. Please amend section 31-9D to:

- Add to the list of situations to be included in the required enforcement planning process a new subsection (a)(1)(D), "at intersections with vehicle directional movement restrictions," and
- Move the "and" from after subsection (B) to after subsection (C).

Locust Hill's efforts to protect our residents from cut-through traffic have spanned many years. After public hearing, we obtained a no left-turn restriction from Elmhirst Parkway to Cedar Lane from 3-7 pm (except for school buses), and a no-right-turn restriction from Cedar Lane from 7-9 am. MC DOT also installed speed bumps along the cut-through route.

An additional promising remedy—or so we thought—was to work with MC DOT and the Stone Ridge School regarding installation of traffic control signals at the Cedar Lane intersection with Elmhirst Parkway and the Stone Ridge School entrance. These include illuminated no-left-turn and no-right-turn signs mounted on the signal arms.

But as we learned, County Police have not enforced these restrictions. For example, we were told, there is no easy "stake-out" area for police to lurk regarding left turns, and now it seems traffic enforcement is a lower staffing priority. But restrictions that are not enforced do not exist, except for those imbued with voluntary civic virtue. (A photo of illegal left-turning traffic is attached)

Residents asked, why don't we ask for installation of an enforcement camera. We had to respond that there was no such thing as a no-left-turn camera. But there could be and should be.

While the legislative findings in new subsection 31-9C(a) focus on pedestrian crashes *at* intersections, we believe that Vision Zero's effort to reduce pedestrian risks should also include automated enforcements efforts to reduce hazards created by vehicles *on their way to* intersections when those hazards are created by drivers' intentions to violate turn or cut-across restrictions once at the intersection.

We understand that no-left-turn software for county intersection cameras may not currently exist. But given recent advances in image detection and analysis, part of the Enforcement Action Plan should be to explore—and request—software and processing capabilities for that purpose. Potential deployment timelines might be included in the Plan.

We appreciate the Council's consideration of Locust Hill's perspective and hope you will direct the Executive to think expansively about the opportunities for Automated Traffic Enforcement to promote Vision Zero. We would be happy to interact with MC DOT in carrying out such an effort.

Exhibit Attached

Exhibit

Left-Turning Traffic at Elmhirst Parkway and Cedar Lane

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan (The Safe Streets Act of 2023)

March 21, 2023

Council President Glass and Council Members,

The Washington Area Bicyclist Association (WABA) supports Bill 11-23, the Safe Streets Act of 2023.

WABA is a nonprofit organization with 1,300 Maryland members. We empower people to ride bikes, build connections, and transform places. We envision a just and sustainable transportation system where walking, biking, and transit are the best ways to get around.

The Safe Streets Act advances Montgomery County toward meeting our Vision Zero commitment. We agree that progress has been made to reduce injuries and deaths on our roadways via sidewalk installations, dedicated bike lanes, automated traffic enforcement, and other traffic calming techniques. This Act will help us make further progress.

We appreciate a provision that may seem peripheral to some, the requirement that the County Executive provide an automated enforcement action plan. The County's Office of Legislative Oversight has found severe racial disparities in police traffic enforcement. The OLO's findings were reported in a 2020 report, *Local Policing Data and Best Practices*, with an October 2022 update via OLO Memorandum Report 2022-12. Automated enforcement is far less discriminatory than police stops.

We recommend a modification to the Act, that the Traffic Infrastructure Review provision cover <u>all</u> students going to or from school in Montgomery County, regardless of time, distance from school, mode, or road jurisdiction, as well as all collisions of any sort with a person in an established County school zone or on school property during arrival or dismissal. And please consider extending the Act to Suburban areas.

We look forward to Bill 11-23's enactment and implementation, and to working with you on steps beyond those covered by the bill.

What steps beyond?

The County Council and County Executive should encourage Montgomery County municipalities to adopt Safe Streets Act provisions themselves, covering municipally owned streets in their own downtown and town center areas and possibly their suburban areas, that is, provisions for Traffic Infrastructure Review, No Right Turn on Red, Leading Pedestrian Intervals at crossings, and creation of an Automated Traffic Enforcement Plan.

And beyond the Safe Streets Act, Montgomery County should lower speed limits county-wide, on arterials and in downtown and town center areas and specifically to 20 MPH on residential streets. Compare that effective July 1, 2020, the District of Columbia established a default speed limit of 20 mph for all local streets, residential streets that primarily serve neighborhood traffic.

Why lower speed limits?

According to the Federal Highway Administration, “a driver traveling at 30 miles per hour who hits a pedestrian has a 45 percent chance of killing or seriously injuring them. At 20 miles per hour, that percentage drops to 5 percent.” Similar fatality and serious-injury stats apply for bicyclists struck by a driver traveling at a higher versus a lower speed.

Maryland Transportation Code §21–803 allows alteration of maximum speed limits by local authorities but requires “performing an engineering and traffic investigation” for streets whose limit is to be lowered. The County should request a 2024 Maryland local bill or a state-wide bill to allow speed-limit reduction for an entire jurisdiction or area following creation of a jurisdiction- or area-wide complete-streets plan. Then the County should follow up with complete-streets plans and speed-limit reductions, with systematic reduction to 20 MPH on residential streets. This is the next step you can and should take, after enacting the Safe Streets Act of 2023, to advance Montgomery County toward Vision Zero.

Thank you for the opportunity to testify. The Washington Area Bicyclist Association supports Bill 11-23, the Safe Streets Act of 2023. We thank Council President Glass for developing this legislation and the nine County Council Member co-sponsors, and urge you to start now on further steps to realize Vision Zero in Montgomery County.

Seth Grimes, Maryland Organizer
Washington Area Bicyclist Association
seth.grimes@waba.org

Testimony on behalf of the County Executive Marc Elrich
Bill 11-23, Motor Vehicles and Traffic - Traffic Control Signals, Devices, and Enforcement Action Plan

My name is Wade Holland, Vision Zero Coordinator for the County Government. Thank you for this opportunity to testify in support of Bill 11-23 on behalf of County Executive Marc Elrich. Bill 11-23 takes steps to improve pedestrian safety in our downtown and town center areas by expanding "No Turn on Red" restrictions and implementing "Leading Pedestrian Intervals" at signalized intersections. The bill also requires crash reviews in school zones and publishing an automated enforcement plan.

The County Executive supports the intent of all four of these initiatives as each is an element of our existing Vision Zero 2030 Action Plan. Executive agency staff looks forward to working with the Council on amendments to enhance the effectiveness of this legislation by requiring the development of an implementation plan for "No Turn on Red Restrictions" and "Leading Pedestrian Intervals," encouraging more uniform implementation at County and State locations, and providing for waiver requirements at locations where it is determined that implementation will be counterproductive or alternative treatments may be a better fit for the context. The automated enforcement plan should reflect automated enforcement technologies approved for use by the State and County. Currently, stop sign monitoring systems are not permitted in Maryland and enabling legislation will not be passed in the legislature this year.

The County Executive thanks the Council for considering measures to improve roadway safety and advance Vision Zero on County roads through measures like those recommended in Bill 11-23.

To the Montgomery County Council:

I am writing to support Bill 11-23 - The Safe Streets Act of 2023.

The recommendations of this act would progress the urgent need to increase safety for vulnerable users of the Counties' road infrastructure and to progress the lagging progress of the Counties' Vision Zero goals.

Vehicles block crosswalks at intersections allowing for Right Turns on Red. Already vehicles are mostly yielding on red rather than making a full stop as required by law. Many of these infractions can be caught and enforced using automated traffic enforcement devices.

For too long, convenience and level of service for vehicles have normalized pedestrian injuries and death. We continue to excuse excess injuries and death to additional vehicular miles driven. As noted in the Counties p' Vision Zero Annual Report for 2020, a **20% increase** in injuries (from 202 to 241) is normalized/excused by additional miles driven. See below for the highlighted quote from the Vision Zero FY2022 Annual Report:

"Serious and fatal crashes increased from 202 in 2020 to 241 in 2021,1 but was 15% below the 2015-2019 average. ***Much of the year-over-year increase, particularly for serious injury crashes, was due to a 9% increase in vehicle miles traveled*** as people returned to the road after COVID- 19 related shutdowns. (from the Vision Zero FY2022 Annual Report).

We need to do better.

We remember Jake Cassells 17, Dr Ned Gaylin 81, Jennifer DiMauro 31, Eric Frank Grosse Jr. 71, Enzo Marcel Alvarenga 18, and recently Sarah Langenkamp 41.

Best regards,

Warren Chan

March 19, 2023

Councilmember Glass,

With regard to Bill 11-23, in this section, can the word “student” be made more generic, maybe “person”, and eliminate the need to be going to or from school? I walk my kids to school and I would hope that even if I, an adult, was hit in a school zone during this timeframe, that an infrastructure review would be forced too. Limiting this to only students misses other uses and people in the same area that need the same protections from car/truck/bus traffic.

31-9a
c.Traffic infrastructure review within a school zone - required. The Department of Transportation must coordinate with the Montgomery County Public School to conduct a traffic infrastructure review of each collision that:
(1) occurs on a County road;
(2) involves a **student** going to or from school; and
(3) occurs in a designated school zone or on school property during
arrival or dismissal times.

Regards,
Steve Ashurst
14401 Hollyhock Way, Burtonsville
20866
301.547.3447

Montgomery County Planning Board
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

2425 Reedie Drive
Floor 14
Wheaton, MD 20902

MontgomeryPlanningBoard.org

March 17, 2023

The Honorable Evan Glass
President, Montgomery County Council
Council Office Building
100 Maryland Avenue
Rockville, Maryland 20850

Re: Planning Board Comments Regarding Bill 11-23

Dear President Glass:

At its March 16, 2023, meeting the Montgomery County Planning Board discussed Bill 11-23, draft legislation that aims to "advance the County's Vision Zero goals by eliminating serious and fatal crashes through… prioritizing student safety in school zones, providing more access for pedestrians in a crosswalk, prohibiting a right turn on red, and requiring a plan for increased automated traffic enforcement." The Planning Board supports this essential legislation because it advances the goals of Vision Zero and the ongoing Pedestrian Master Plan. The Board voted 3:0 (Chair Zyontz and Commissioner Pedoeem absent) to transmit the following comments to improve this already strong legislation. Also included are potential text revisions to the bill to address these comments:

1. **Expand the scope of the traffic infrastructure review effort.**
   This legislation requires a traffic infrastructure review if a collision involves a student along a county road in a designated school zone (or on school property). The Board noted that, in addition to students, school employees, parents, and visitors traveling to and from schools are also potentially vulnerable to collisions in a school zone or on a school property. While addressing the engineering factors that lead to student-involved collisions is essential, collisions in these areas that do not involve students could be caused by deficiencies that may lead to student-involved collisions in the future. To that end, in the proactive spirit of Vision Zero and acknowledging the wider school community who travel through these areas, the Board recommends language limiting the applicability of the traffic infrastructure reviews to those crashes that include students be removed from the legislation.

2. **Provide MCDOT flexibility in implementing No Turn on Red (NTOR) and Leading Pedestrian Intervals (LPI).**
   As written, the legislation requires MCDOT to implement NTOR and LPIs without exception. However, there may be situations where it may not be in the interest of public safety to add NTOR and LPIs. Under certain circumstances, MCDOT could find another treatment, such as a Lagging Pedestrian Interval or a Leading Through Interval, to be a superior safety improvement at a specific intersection. While NTOR and LPI should be the default, MCDOT should have the discretion to make other intersection changes that improve traffic safety. For locations where NTOR and LPIs are found to be inappropriate or inadequate, a rationale should be shared publicly. To address this issue, the proposed legislation could be rewritten as indicated below.

3. **Clarify that the NTOR and LPI provisions of the legislation apply only to county-controlled signalized intersections.**
   Additional clarity is needed to specify where NTOR restrictions and LPIs must be installed. As written, the bill states:

   > (c) Signage - required. The Department must erect signage that indicates "No Right Turn on Red" at the intersection of a County road located: (1) in a downtown area; and (2) in a town center area
   >
   > (e) Leading pedestrian interval – required. The Director must install or cause to be installed a leading pedestrian interval at every crosswalk of a County road located: (1) in a downtown area; and (2) in a town center area.

   However, the County government does not have control over the signalization or signage of intersections involving state highways (including intersections with County roads). Additionally, NTOR restrictions and LPIs are not possible at unsignalized intersections, like those that are stop sign-controlled. To clarify the applicability of this provision, the legislation could be rewritten as indicated below.

4. **Convene a working group to advance implementation of NTOR restrictions and LPIs at state-controlled signalized intersections.**
   While implementing NTOR and LPIs at county-controlled signalized intersections will be a substantial improvement for pedestrian safety, state-controlled signalized intersections are where these pedestrian safety improvements would have the largest benefits, as these locations tend to have the highest volumes of motor vehicles and pedestrians.

   As a next step, a working group could be convened including MCDOT and the Maryland Department of Transportation State Highway Administration to explore opportunities for implementing similar NTOR restrictions and LPI at state-controlled signalized intersections.

5. **Expand the legislation to require LPIs at major pedestrian generators outside Downtowns and Town Centers.**
   Intersections around schools, parks, transit stations, and community centers were highlighted as opportunity sites for LPIs through data collection and public engagement around the Pedestrian Master Plan developed by the Planning Department. While Downtowns and Town Centers are large nodes of pedestrian activity, schools, parks, community centers and transit stations outside of Downtowns and Town Centers are also areas of high pedestrian activity. The Board recommends the LPI requirement also apply to these areas; the legislation could be rewritten as indicated below.

Potential Legislative Language Changes to Address Comments

These references in the draft legislation could be rewritten as follows to address the comments above:

31-9A. (e) *Traffic infrastructure review within a school zone – required.* The Department of Transportation must coordinate with the Montgomery County Public School to conduct a traffic infrastructure review of each collision that:

(1) occurs on a County road; and

[[(2) involves a student going to or from school; and**]]**

[[(3)**]]** (2) Occurs in a designated school zone or on school property during arrival or dismissal times.

* * *

31-9C. (c) Signage – required. The Department must erect signage that indicates "No Right Turn on Red" at the intersection of **[[**a**]]** County-controlled signalized intersections **[[**road**]]** located: (1) in a downtown area; and (2) in a town center area.

* * *

(e) Leading pedestrian interval – required. The Director must install or cause to be installed a leading pedestrian interval at every crosswalk of **[[**a**]]** County-controlled signalized intersections **[[**road**]]** located: (1) in a downtown area; and (2) in a town center area; and (3) within one block of a school, park, rail or bus rapid transit stations, or community center frontage.

* * *

(f) The requirements of subsection (c) or (e) do not apply at an intersection if the Director concludes that they would significantly impair public safety. Within one year of {*effective date of the bill*}, the Director shall forward a report to the County Council documenting the rationale for not proceeding with installation of "No Turn on Red" signage or a leading pedestrian interval at specific locations. This document must be updated and resubmitted to the County Council annually to account for changing circumstances.

Thank you for the opportunity to provide comments on Bill 11-23, which takes significant steps to implement several key actions of the Pedestrian Master Plan Public Hearing Draft, including Key Actions P-2c (LPIs), P-2d (No Turn on Red), and P-8a (Increase Automated Enforcement). The Planning Board and Planning Department staff look forward to discussing Pedestrian Master Plan recommendations with the Council in the coming months and supporting efforts to implement the many key actions identified in the Plan. If you have any questions or comments, please contact Eli Glazier, project manager for the Pedestrian Master Plan, at 301-495-4548.

Sincerely,

Roberto Piñero
Vice Chair

cc: Christopher Conklin, Director, Montgomery County Department of Transportation
Tanya Stern, Acting Director, Planning Department
Jason Sartori, Chief, Countywide Planning and Policy Division, Planning Department
Stephen Aldrich, Transportation Master Planner, Planning Department
David Anspacher, Transportation Supervisor, Planning Department
Eli Glazier, Project Manager, Pedestrian Master Plan

Racial Equity and Social Justice (RESJ) Impact Statement

Office of Legislative Oversight

BILL 11-23: MOTOR VEHICLES AND TRAFFIC – TRAFFIC SIGNALS, DEVICES, AND ENFORCEMENT ACTION PLAN

SUMMARY

The Office of Legislative Oversight (OLO) finds the racial equity and social justice (RESJ) impact of Bill 11-23 is indeterminant. While Black, Indigenous, and Other People of Color (BIPOC) Montgomery County Public Schools (MCPS) student pedestrians could disproportionately benefit from traffic improvement recommendations of infrastructure reviews, it is unclear how these recommendations will translate into investments for affected school zones. Further, it is unclear the extent to which BIPOC constituents will be the primary beneficiaries of proposed traffic safety investments in downtown and town center areas, and the pending automated traffic enforcement plan.

PURPOSE OF RESJ IMPACT STATEMENTS

The purpose of RESJ impact statements (RESJIS) is to evaluate the anticipated impact of legislation on racial equity and social justice in the County. Racial equity and social justice refer to a **process** that focuses on centering the needs, leadership, and power of communities of color and low-income communities with a **goal** of eliminating racial and social inequities.[1] Achieving racial equity and social justice usually requires seeing, thinking, and working differently to address the racial and social harms that have caused racial and social inequities.[2]

PURPOSE OF BILL 11-23

Vision Zero is a strategy for eliminating all traffic fatalities and severe injuries, while increasing safe, healthy, and equitable mobility for all. Since its inception in Europe in the 1990s, a growing number of jurisdictions in the United States have adopted Vision Zero action plans.[3] Montgomery County adopted its own action plan in 2016 and outlines the following goals:

> *Using data-informed and equitable approaches, Montgomery County will systematically update the roadway network to create complete, safe streets and build a culture of safety through purposeful campaigns and engagement to eliminate serious and fatal collisions by 2030.*[4]

Bill 11-23, The Safe Streets Act of 2023, proposes the following actions to advance the County's Vision Zero goals:[5]

- require an infrastructure review for pedestrian-related collisions within a County's school zone;
- prohibit a driver of a motor vehicle from making a right turn on a red at certain intersections;
- require certain traffic control devices at crosswalks in the County's downtown and town center areas;[6]
- require the County Executive to provide an automated traffic enforcement plan; and
- generally amend the law regarding motor vehicles and traffic control.

Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan, was introduced by the Council on February 28, 2023.

In August 2022, OLO published a RESJIS for Bill 24-22, Streets and Roads. Please refer to this RESJIS for more background on transportation infrastructure and racial equity.[7]

VISION ZERO AND RACIAL EQUITY

Racial equity is a central component of the Vision Zero movement. As explained by the Vision Zero Network:

> *In order to transform broken systems into safe systems, Vision Zero efforts must recognize that many communities have been systemically discriminated against in transportation practices, and that not all communities are starting from the same place, in terms of traffic safety investments and practices. And, specifically, the harms caused by racial bias in policing showcase the urgent need to improve upon the traditional approach to traffic safety. As advocates for safe mobility, we must work hard to ensure that Vision Zero efforts improve – not exacerbate – negative, unintended consequences, particularly in communities of color and low-income communities.*[8]

The network proposes three broad strategies for integrating equity in Vision Zero: rethinking the role of enforcement; investing where needs are greatest; and engaging the community.[9]

Historically inequitable policies and practices in transportation infrastructure have fostered disparities in traffic-related injuries by race and ethnicity. Researchers note that unsafe street infrastructure conducive to traffic accidents – such as inadequate sidewalks and crosswalks, and major arterial roads that prioritize speed and car volume over pedestrian safety – often characterize low-income communities.[10] Racial and ethnic differences in the social determinants of health have also been cited as drivers of racial disparities in traffic-related injuries.[11] National data on traffic injury shows that:

- Indigenous and Black Americans have the highest rate of traffic deaths at 145.6 and 68.5 per 100,000, followed by White (55.2 per 100,000), Latinx (46.9 per 100,000) and Asian (15.3 per 100,000) Americans.[12]
- Black cyclists have per mile fatality rates four times higher than White cyclists, and Latinx cyclists have per mile fatality rates 70 percent higher than White cyclists.[13]
- For motorcycle crashes, Black victims were 1.5 times more likely to die from their injuries than similarly injured White victims, even though they were 30 percent more likely to have been wearing helmets.[14]
- Black and Indigenous Americans have pedestrian deaths two to three times higher than White Americans. Further, the lower the income of the census tract, the more likely a person is to be struck and killed while walking.[15]

Available local data also demonstrates disparities in traffic injuries by race and ethnicity:

- Between 2011 and 2015, Latinx pedestrians were most likely to be killed in a traffic incident (2.9 per 100,000) followed by Black pedestrians (1.6 per 100,000) and White pedestrians (0.9 per 100,000).[16]

- Between 2011 and 2015, Black vehicle occupants were most likely to be killed in a traffic accident (4.3 per 100,000) followed by White vehicle occupants (3.4 per 100,000) and Latinx vehicle occupants (3.2 per 100,000).[17]
- Local communities in Montgomery County with higher rates of poverty, persons of color, and younger residents have higher collision rates compared to the rest of the County.[18]

ANTICIPATED RESJ IMPACTS

To consider the anticipated impact of Bill 11-23 on RESJ in the County, OLO recommends the consideration of two related questions:

- Who are the primary beneficiaries of this bill?
- What racial and social inequities could passage of this bill weaken or strengthen?

For the first question, OLO identified several stakeholders that would be impacted by this Bill:

- **MCPS student pedestrians, as well as parents, staff, and other pedestrian stakeholders** could benefit from traffic improvement recommendations in County school zones leading from infrastructure reviews of collisions involving student pedestrians going to and from school. This change could disproportionately benefit BIPOC student pedestrians, as they are likely overrepresented in schools located in areas of the County with higher collision rates and pedestrian crashes (Appendix, Figure 1).[19]
- **Constituents residing in downtown and town center areas** could benefit from increased safety through the implementation of right turn restrictions at intersections and the installation of traffic control devices at crosswalks. It is uncertain the extent to which downtown and town center areas overlap with areas of the County where BIPOC or White residents are overrepresented; thus, there is insufficient information to determine if there could be disproportionalities by race and ethnicity among constituents residing in these areas.
- **Constituents and other stakeholders using County roads** could benefit from increased safety through the development of an automated traffic enforcement plan for the County. Since the plan is pending completion, there is insufficient information to determine who the primary beneficiaries will be and if there could be disproportionalities by race and ethnicity among them.

For the second question, OLO considered the effect this Bill could have on reducing transportation inequities in the County. While BIPOC MCPS student pedestrians could disproportionately benefit from traffic improvement recommendations of infrastructure reviews, it is unclear how these recommendations will translate into traffic safety investments for affected school zones. Further, it is unclear the extent to which BIPOC constituents will be the primary beneficiaries of proposed traffic safety investments in downtown and town center areas, and the pending automated traffic enforcement plan.

Taken together, OLO finds the RESJ impact of Bill 11-23 is indeterminant.

RECOMMENDED AMENDMENTS

The Racial Equity and Social Justice Act requires OLO to consider whether recommended amendments to bills aimed at narrowing racial and social inequities are warranted in developing RESJ impact statements.[20] OLO finds the RESJ impact of Bill 11-23 is indeterminant. As such, OLO does not offer recommended amendments.

CAVEATS

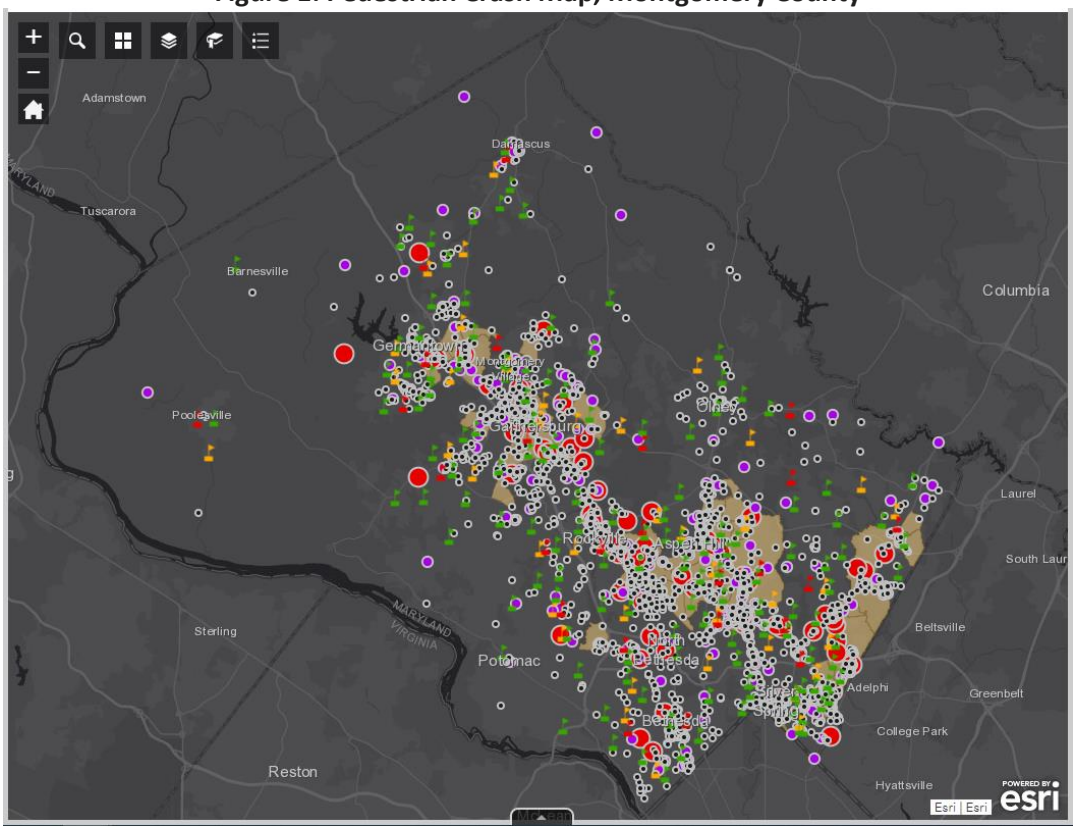
Two caveats to this racial equity and social justice impact statement should be noted. First, predicting the impact of legislation on racial equity and social justice is a challenging analytical endeavor due to data limitations, uncertainty, and other factors. Second, this RESJ impact statement is intended to inform the legislative process rather than determine whether the Council should enact legislation. Thus, any conclusion made in this statement does not represent OLO's endorsement of, or objection to, the bill under consideration.

CONTRIBUTIONS

OLO staffer Janmarie Peña, Performance Management and Data Analyst, drafted this RESJ impact statement.

APPENDIX

Figure 1: Pedestrian Crash Map, Montgomery County



Source: 2015-2020 Montgomery County Interactive Crash Map, Montgomery Planning.

Legend

●	Pedestrian Involved, Fatality	⚑	MCPS Elementary School	▱	Equity Focus Area[21]
●	Pedestrian Involved, Serious Injury	⚑	MCPS Middle School		
●	Pedestrian Involved, Minor/No Injury	⚑	MCPS High School		

[1] Definition of racial equity and social justice adopted from "Applying a Racial Equity Lens into Federal Nutrition Programs" by Marlysa Gamblin, et.al. Bread for the World, and from Racial Equity Tools. https://www.racialequitytools.org/glossary
[2] Ibid
[3] Vision Zero Homepage, Vision Zero Network. https://visionzeronetwork.org/about/what-is-vision-zero/
[4] Introduction Staff Report for Bill 11-23, Montgomery County Council, Introduced February 28, 2023. https://apps.montgomerycountymd.gov/ccllims/DownloadFilePage?FileName=2786_1_23771_Bill_11-2023_Introduction_20230228.pdf
[5] Ibid
[6] Certain traffic control devices include a "leading pedestrian interval" (LPI), which gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication.
[7] RESJIS for Bill 24-22, Office of Legislative Oversight, August 22, 2022. https://www.montgomerycountymd.gov/OLO/Resources/Files/resjis/2022/Bill24-22.pdf
[8] Safe Mobility is a Right: Vision Zero Communities Should Commit to Equity from the Start, Vision Zero Network. https://visionzeronetwork.org/resources/equity/
[9] Ibid
[10] "Dangerous by Design 2022," Smart Growth America and National Complete Streets Coalition, July 2022. https://smartgrowthamerica.org/dangerous-by-design/
[11] "Black Motorcyclists- Even in Helmets- More Likely to Die in Crashes," John Hopkins Medicine, September 23, 2010. https://www.hopkinsmedicine.org/news/media/releases/black_motorcyclists__even_in_helmets__more_likely_to_die_in_crashes
[12] "An Analysis of Traffic Fatalities by Race and Ethnicity," Governors Highway Safety Association, June 2021. https://www.ghsa.org/resources/Analysis-of-Traffic-Fatalities-by-Race-and-Ethnicity21
[13] Kea Wilson, "Study: Black Cyclists Die 4.5x More Often than White Cyclists," StreetsBlogUSA, June 14, 2022. https://usa.streetsblog.org/2022/06/14/study-black-cyclists-die-4-5x-more-often-than-white-riders/
[14] "Black Motorcyclists- Even in Helmets- More Likely to Die in Crashes"
[15] "Dangerous by Design 2022"
[16] "Equity and Severe and Fatal Collisions," Montgomery County Vision Zero Two-Year Action Plan, November 2017. https://www.montgomerycountymd.gov/visionzero/Resources/Files/Montgomery_20County_20Vision_20Zero_202_20Year_20Action_20Plan.pdf
[17] Ibid
[18] "Equity Framework," Montgomery County Vision Zero, December 2019. https://www.montgomerycountymd.gov/visionzero/Resources/Files/Equity%20Task%20Force%20Framework%20FINAL.pdf
[19]Because of school zoning policies, BIPOC students are likely overrepresented in schools located in BIPOC communities, which have higher collision rates (refer to 18, "Equity Framework"). Also refer to visual analysis of pedestrian crashes in Appendix Figure 1.
[20] Bill 27-19, Administration – Human Rights – Office of Racial Equity and Social Justice – Racial Equity and Social Justice Advisory Committee – Established, Montgomery County Council
[21] Equity Focus Areas are parts of Montgomery County that are characterized by high concentrations of lower-income people of color, who may also speak English less than very well. More information: https://montgomeryplanning.org/planning/equity-agenda-for-planning/the-equity-focus-areas-analysis/

Montgomery Planning
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

2425 Reedie Drive
Floor 14
Wheaton, MD 20902

MontgomeryPlanning.org

May 18, 2023

Ludeen McCartney-Green
Legislative Attorney
Montgomery County Council
100 Maryland Avenue, 6th Floor
Rockville, Maryland, 20850

Re: Safe Streets Act of 2023

Dear Ms. McCartney-Green,

During the T&E Committee work session on the Safe Streets Act of 2023 on March 30, 2023, the committee agreed to defer a decision on the distance that a Leading Pedestrian Interval must be installed from certain public facilities. The original proposal from the Planning Board was to make the distance not more than one block, but there was discussion that one block is ambiguous in some instances. We would therefore like to offer the proposed language below.

As Introduced (lines 76-80):

(e) *Leading pedestrian interval – required.* The Director must install or cause to be installed a leading pedestrian interval at every crosswalk of a County road located:
(1) in a downtown area; and
(2) in a town center area.

Proposed:

(e) *Leading pedestrian interval – required.* The Director must install or cause to be installed a leading pedestrian interval at every crosswalk**[[** of a County road located**]]**:
(1) of County-owned signalized intersections located in a downtown area or in a town center area; and
(2) **[[**in a town center area**]]**at the closest intersection within 1,300 feet in each direction of the access point to a school, park, rail or bus rapid transit station, or community center.

A distance of 1,300 feet may be acceptable to the committee as an upper limit as this is the "Generally Accepted Minimum Spacing for Signalized Intersections" for Boulevards, Area Connectors and Neighborhood Connectors in the County's Complete Streets Design Guide. These are the street types outside of downtowns and town centers that are most likely to provide access to public facilities. This distance is based on a five-minute walk, which is a distance that most people are willing to walk.

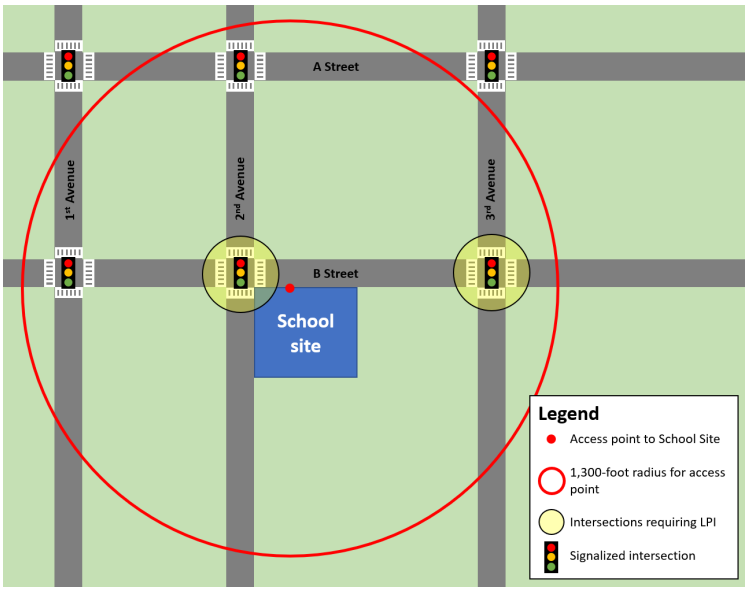
During the work session, our staff indicated that there are about 100 county-owned traffic signals in Downtown and Town Center areas. We refined this estimate and have found that there are 69 county-

owned signals in downtown areas and 33 county-owned signals in town center areas (a total of 102 signals). Additionally, there are 54 county-owned signals (outside Downtown and Town Center areas) located within 1,300 feet of the access point to a school, park, rail or bus rapid transit station, or community center.

Number of Signals within Various Distances of Different Types of Access Points

Public Facility	400 feet	600 feet	800 feet	1,000 feet	1,200 feet	1,300 feet
Elementary Schools	0	2	3	3	3	3
Middle Schools	0	0	2	3	3	3
High Schools	1	2	2	2	4	4
Library	0	0	1	1	1	1
Parks	11	18	21	30	38	39
Rec Center	2	3	3	3	3	4
Grand Total	**14**	**25**	**32**	**42**	**52**	**54**

The graphic below shows a hypothetical diagram of traffic signals (highlighted in yellow) where MCDOT would be required to install a Leading Pedestrian Interval, per the proposed revisions to (e)(2).



Planning staff thank you for the opportunity to participate in this important conversation and look forward to discussing these issues further with the County Council.

Sincerely,

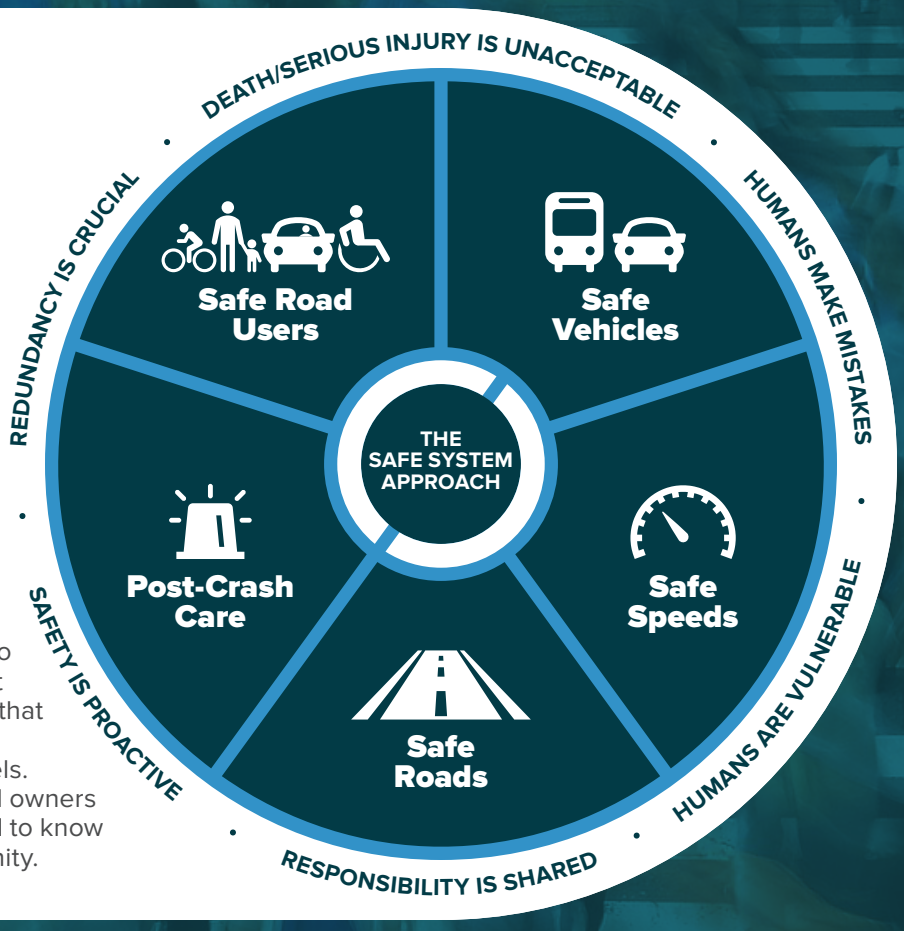
Eli Glazier
Transportation Planner III
eli.glazier@montgomeryplanning.org

THE SAFE SYSTEM

APPROACH

Zero is our goal. A Safe System is how we will get there.

Imagine a world where nobody has to die from vehicle crashes. The Safe System approach aims to eliminate fatal & serious injuries for all road users. It does so through a holistic view of the road system that first anticipates human mistakes and second keeps impact energy on the human body at tolerable levels. Safety is an ethical imperative of the designers and owners of the transportation system. Here's what you need to know to bring the Safe System approach to your community.



SAFE SYSTEM PRINCIPLES

Death/Serious Injury is Unacceptable

While no crashes are desirable, the Safe System approach prioritizes crashes that result in death and serious injuries, since no one should experience either when using the transportation system.

Humans Make Mistakes

People will inevitably make mistakes that can lead to crashes, but the transportation system can be designed and operated to accommodate human mistakes and injury tolerances and avoid death and serious injuries.

Humans Are Vulnerable

People have limits for tolerating crash forces before death and serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates human vulnerabilities.

Responsibility is Shared

All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.

Safety is Proactive

Proactive tools should be used to identify and mitigate latent risks in the transportation system, rather than waiting for crashes to occur and reacting afterwards.

Redundancy is Crucial

Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.

U.S.Department of Transportation
Federal Highway Administration
FHWA-SA-20-015

Safe Roads for a Safer Future
Investment in roadway safety saves lives

SAFE SYSTEM ELEMENTS

Making a commitment to zero deaths means addressing every aspect of crash risks through the five elements of a Safe System, shown below. These layers of protection and shared responsibility promote a holistic approach to safety across the entire transportation system. The key focus of the Safe System approach is to reduce death and serious injuries through design that accommodates human mistakes and injury tolerances.

Safe Road Users

The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.

Safe Vehicles

Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.

Safe Speeds

Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.

Safe Roads

Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.

Post-Crash Care

When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.

THE SAFE SYSTEM APPROACH VS. TRADITIONAL ROAD SAFETY PRACTICES

Traditional		Safe System
Prevent crashes	→	Prevent deaths and serious injuries
Improve human behavior	→	Design for human mistakes/limitations
Control speeding	→	Reduce system kinetic energy
Individuals are responsible	→	Share responsibility
React based on crash history	→	Proactively identify and address risks

Whereas traditional road safety strives to modify human behavior and prevent all crashes, the Safe System approach also refocuses transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives.

WHERE ARE YOU ON THE SAFE SYSTEM JOURNEY?

Implementing the Safe System approach is our shared responsibility, and we all have a role. It requires shifting how we think about transportation safety and how we prioritize our transportation investments. Consider applying a Safe System lens to upcoming projects and plans in your community: put safety at the forefront and design to accommodate human mistakes and injury tolerances. Visit **safety.fhwa.dot.gov/zerodeaths** to learn more.

Fiscal Impact Statement

Office of Management and Budget

Bill 11-23	**Motor Vehicles and Traffic - Traffic Signals, Devices, and Automated Enforcement Plan (The Safe Streets Act of 2023)**
Bill Summary	Bill 11-23 is to advance the County's Vision Zero goals by eliminating serious and fatal crashes through the means of addressing specific transportation initiatives, including prioritizing student safety in school zones, providing more access for pedestrians in a crosswalk, prohibiting a right turn on red, and requiring a plan for increased automated traffic enforcement.
Fiscal Impact Summary	This legislation requires Traffic Infrastructure Reviews, installation of No Right Turn on Red signage, implementation of Leading Pedestrian Intervals, and creation of an Automated Traffic Enforcement Plan. Staff time would be utilized to conduct the Traffic Infrastructure Reviews, Leading Pedestrian Intervals and Automated Traffic Enforcement Plan. Contractual work efforts will be utilized to install the No Right Turn on Red signage.

Fiscal Year	2024	2025	2026	2027	2028	2029	Total
Personnel Costs	$0	$0	$0	$0	$0	$0	$0
Operating Expenses	$0	$176,000	$0	$0	$0	$0	$176,000
Total Expenditures	**$0**	**$176,000**	**$0**	**$0**	**$0**	**$0**	**$176,000**
Revenues	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Total Impact	**$0**	**($176,000)**	**$0**	**$0**	**$0**	**$0**	**($176,000)**
FTE	0.00	0.00	0.00	0.00	0.00	0.00	

Fiscal Impact Analysis	Bill 11-23 would require Montgomery County's Department of Transportation (MCDOT) to post signs marked "No Right Turn on Red" at the intersection of a County road in a downtown and town center areas (as defined in adopted Bill 24-22, Streets and Roads and Corrective Bill 34-22, Streets and Roads - Classification of Roads). MCDOT identified a total of 98 intersections throughout Bethesda's, Silver Spring's and Wheaton's Central Business Districts (CBD), including Maryland Department of Transportation State Highway Administration signals, and identified a total of 143 occurrences where a "No Right Turn on Red" would be required. The cost for contractors to install signs at each occurrence in the CBDs would be $1,230, for a total of $175,890, assumed to be expended in FY25 in order to be implemented by the required effective date of July 1, 2025. The total number of occurrences outside of these CBDs needs to be finalized in order to identify the comprehensive fiscal impact. No additional positions are anticipated as explained below. Revenues are likely to increase as a result of additional Automated Traffic Enforcement, though the amount of additional revenue is difficult to project.
Staff Impact	No additional positions are anticipated to be needed to implement this legislation. An estimated 15-25 reviews would be required each year with ten hours needed for each

	review to support the Traffic Infrastructure Review required by the bill. Work will be performed by current staff. Reviews will be required within six months after an injury or fatality has occurred. Similarly, implementation of the Leading Pedestrian Interval requirement within the CBDs would require 25 hours of time for a Signal Timing Engineer as well as four total hours of Engineer's time for each occurrence which will be performed by current staff. Finally, the Automated Traffic Enforcement Plan required by this legislation will be developed by current staff.
Actuarial Analysis	The bill is not expected to impact retiree pension or group insurance costs.
Information Technology Impact	The bill is not expected to impact the County Information Technology (IT) or Enterprise Resource Planning (ERP) systems.
Other Information	
Later actions that may impact revenue or expenditures if future spending is projected	The bill does not authorize future spending.
Ranges of revenue or expenditures that are uncertain or difficult to project	Actual costs for Traffic Infrastructure Review will depend on the total number of reviews needed to be performed and the length of time to complete the report. For the No Right Turn on Red/Leading Pedestrian Interval requirements, actual costs will depend on the final number of occurrences identified. Finally, estimated annual revenues and costs for the Automated Traffic Enforcement Plan will not be known until the Automated Traffic Enforcement Plan has been developed.
Contributors	Wade Holland, Vision Zero Coordinator Michael L. Paylor, PE, Department of Transportation Dale Phillips, Department of Police Gregory Bruno, Office of Management and Budget

ADDENDUM
TE Item #1
June 29, 2023

M E M O R A N D U M

June 29, 2023

TO: Transportation and Environment Committee

FROM: Ludeen McCartney-Green, Legislative Attorney

SUBJECT: Bill 11-23, Motor Vehicles and Traffic – Traffic Signals, Devices, and Automated Enforcement Plan

PURPOSE: 2nd Worksession – Committee recommendation expected

This addendum contains the Crash Impact Analysis from Montgomery County Department of Transportation, which was received following the publication of the initial staff report. The Crash Impact Analysis is at © A1.

This packet contains:

CRASH AND OPERATIONAL IMPACTS FOR BILL 11-23

UPDATES FROM WORK SESSION 1

The following provides an update on the potential impacts of Bill 11-23 as introduced and decisions from work session #1 held on March 30, 2023. Based on the county's crash history and leading evidence on the prescribed intersection treatments and required studies, the bill is estimated to have minimal impacts on serious and fatal crashes.

LEADING PEDESTRIAN INTERVALS (LPI) AND NO-TURN-ON-RED (NTOR) IN DOWNTOWNS AND TOWN CENTERS

- Implementing leading pedestrian intervals (LPI) and no-turn-on-red (NToR) in Downtown and Town Center areas is **estimated to reduce pedestrian and bicycle crashes by 5 a year (10 if rolled out to County and SHA signals), with minimal effects (less than one crash per year reduction) for serious and fatal crashes**. Implementation of NToR *alone* would have negligible to zero effect on serious and fatal pedestrian and bicycle crashes.
- Between 2016 and 2022, crashes where at least one motor vehicle driver was turning right on red represented 0.8% of pedestrian and 2.1% of cyclist crashes. Collisions involving left-turning vehicles and through-traffic movements are far more prevalent and show a dramatically higher occurrence of serious and fatal injuries.
- There are at least 99 County-owned signalized intersections (note intersections typically have 4 signals) in designated Downtown and Town Center areas. These areas have 200 SHA signalized intersections owned by the State Highway Administration.
- This analysis does not include the potential expansion requirements for using LPI and NToR at traffic controlled County intersection within a specific area of schools, parks, libraries, community centers, and transit stations as this was held during the March work session.

COUNTY DESIGNATED SCHOOL ZONE REVIEWS FOR PEDESTRIANS AND CYCLISTS STRUCK

- The Montgomery County Department of Transportation has a robust Safe Routes to School program that proactively analyzes the walking area around each Montgomery County Public School. Many of the required one-off reviews in Bill 11-23 would be covered by these existing reviews and potentially creates duplicative efforts and recommendations.
- Depending on how the final bill is drafted, **expect between 8-10 reviews each year for school aged pedestrians and cyclists in County designated school zones and nearly 30 reviews if required for all pedestrians and cyclists struck in County designated school zones.**
- For MCPS parking lots, there would be 4 reviews completed by the lead agency.

AUTOMATED ENFORCEMENT PLAN

No changes to the analysis between the bill's introduction and work session #1. Montgomery County Police will continue its planned expansion of speed and red-light cameras with or without the reporting requirements listed under Bill 11-23.

ATTACHMENTS

- Analysis of safety at traffic signal controlled intersections.
- Analysis of school-age pedestrians and cyclists struck near schools.
- Copy of the walking area analysis of Cashell Elementary School as an example of how MCDOT currently performs school safety assessments.

SAFETY AT TRAFFIC SIGNAL CONTROLLED INTERSECTIONS

PURPOSE OF THIS DOCUMENT

This document provides an analysis and recommendations for safety treatments at signalized intersections in line with the Vision Zero Action Plan's action P-04 and Bill 11-23 - Motor Vehicles and Traffic - Traffic Control Signals, Devices, and Enforcement Action Plan.

TABLE OF CONTENTS

SUMMARY FINDINGS

Prohibiting right-turns-on red *in conjunction* with leading pedestrian intervals is a proven safety countermeasure that both the County and State have been implementing at appropriate locations as part of Vision Zero. After full implementation in all Downtown and Town Center areas**, the treatments are estimated to reduce pedestrian and bicycle crashes by 5 a year (10 if rolled out to County and SHA signals), with minimal effects (less than one crash per year reduction) for serious and fatal crashes.**

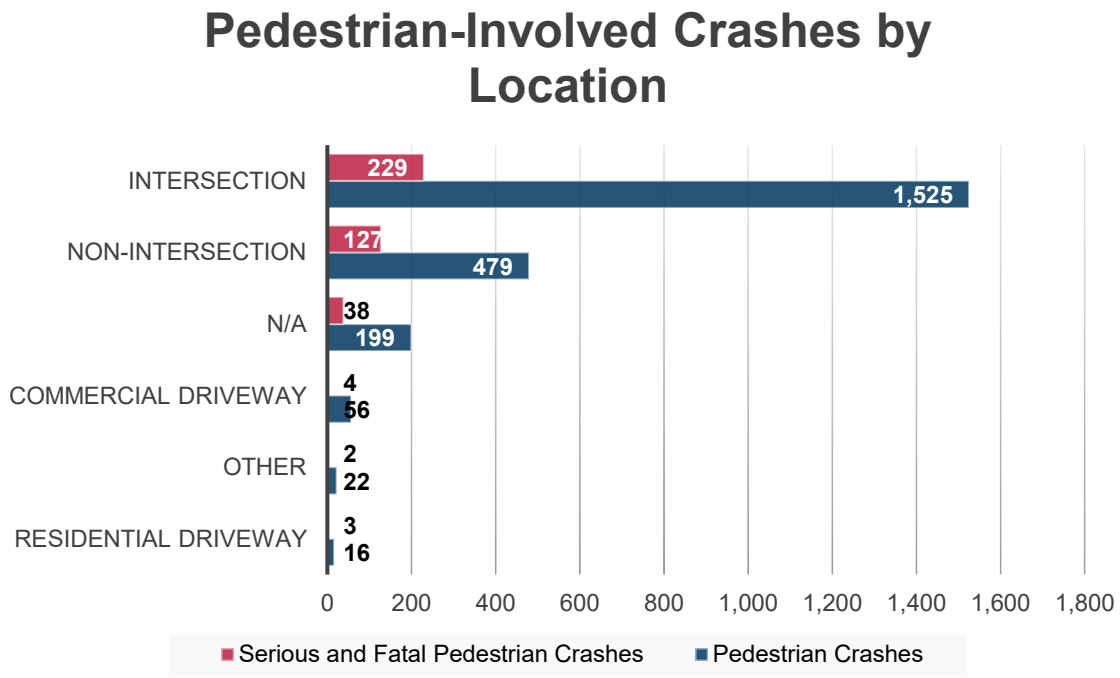
***Effects of Leading Pedestrian Intervals* -** Use of leading pedestrian intervals with a turn restriction can lower pedestrian injury crashes by more than 13%. Based on the bill requirements that LPIs be installed at County intersections with traffic signals in downtowns and town centers, this policy could reduce pedestrian and cyclists struck in an intersection by approximately 5 crashes per year. To get a higher crash reduction, SHA maintained roadways would need to be included in the LPI rollout. Using all traffic controlled intersections in downtown and town center policy areas, the reduction would be closer to 10 crashes each year. Looking at only at crashes where a person walking, rolling, or biking was seriously injured or killed, the reduction would be less than one crash per year. Downtowns and Town Centers represent 28% of all serious and fatal pedestrian and bike crashes at an intersection with the remaining in the suburban and rural areas.

***Effects of prohibition right-turn-on-red* -** Prohibiting right-turn-on-red *alone* is highly unlikely to affect the number of serious and fatal crashes in Montgomery County. Between 2016 and 2022, there were zero recorded crashes where a pedestrian or cyclist was stuck and seriously injured or killed by a vehicle turning right on red in Montgomery County. Studies in other jurisdictions have found prohibiting right-turn-on red can improve pedestrian comfort in terms of reducing vehicle and pedestrian conflicts when drivers enter the crosswalk across their direction of travel in a rolling stop or failing to yield during right turns on green, but may increase conflicts with pedestrians crossing parallel to the movement of traffic in conformance with traffic signal indications.

PEDESTRIAN AND BIKE CRASHES AT INTERSECTIONS

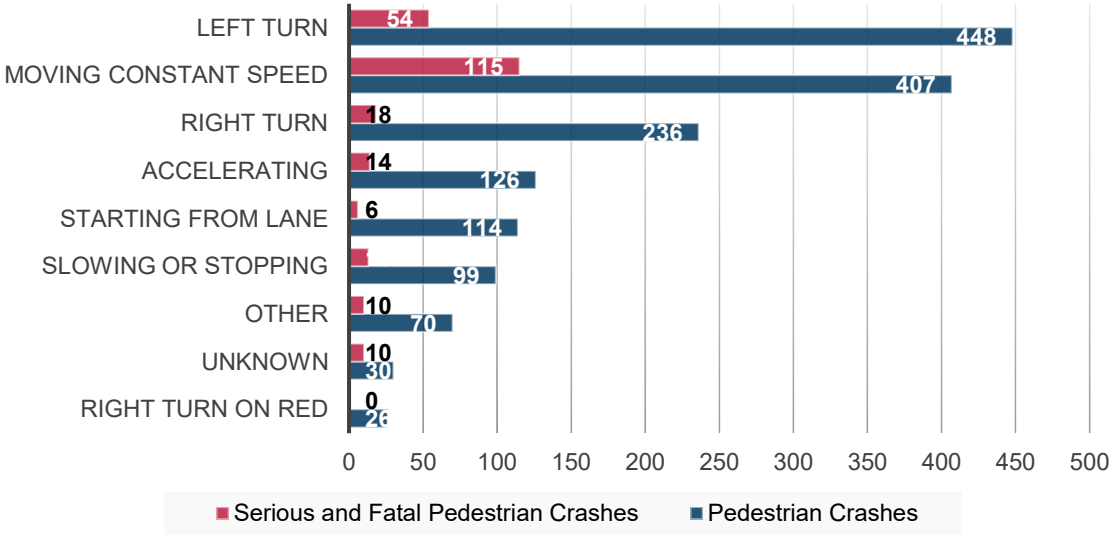
66% of pedestrians and 72% cyclists struck by a motor vehicle from 2016 to 2022 were struck in or in relation[1] to an intersection. Serious and fatal crashes have similar pattern with 57% of pedestrians and 61% of cyclists struck in or relation to an intersection.

There were 26 pedestrians and 19 cyclists struck when the driver of a motor vehicle was making a right turn on red. This represents 0.8% of pedestrian and 2.1% of cyclist crashes. Collisions involving left-turning vehicles and through-traffic movements are far more prevalent and show a dramatically higher occurrence of serious outcomes. Of the 45 right turn on red crashes, 38% occurred in downtown and town center policy areas, 6 were at a County maintained intersection with the remainder along State Highway Administration controlled intersections.

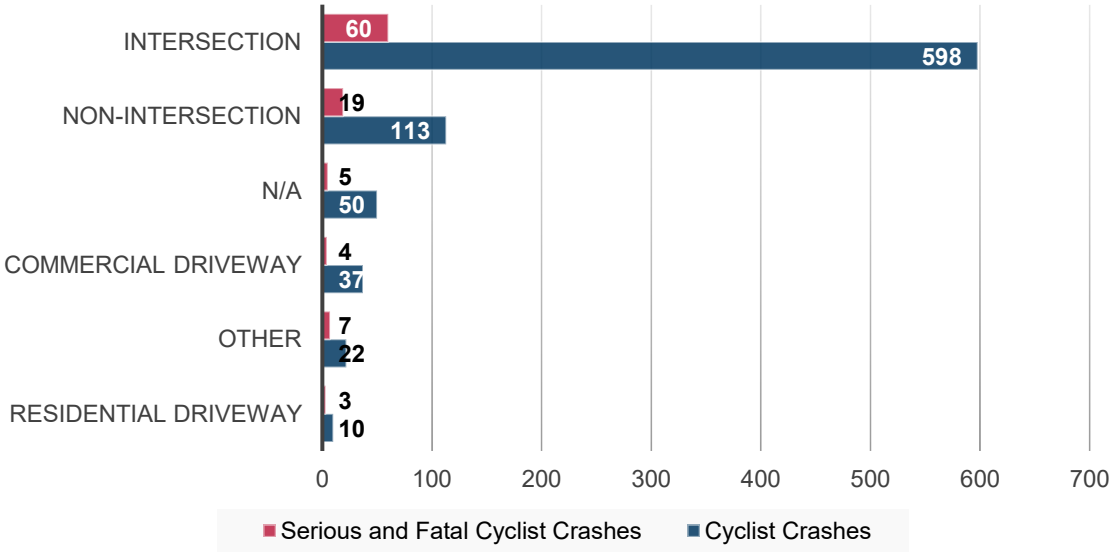


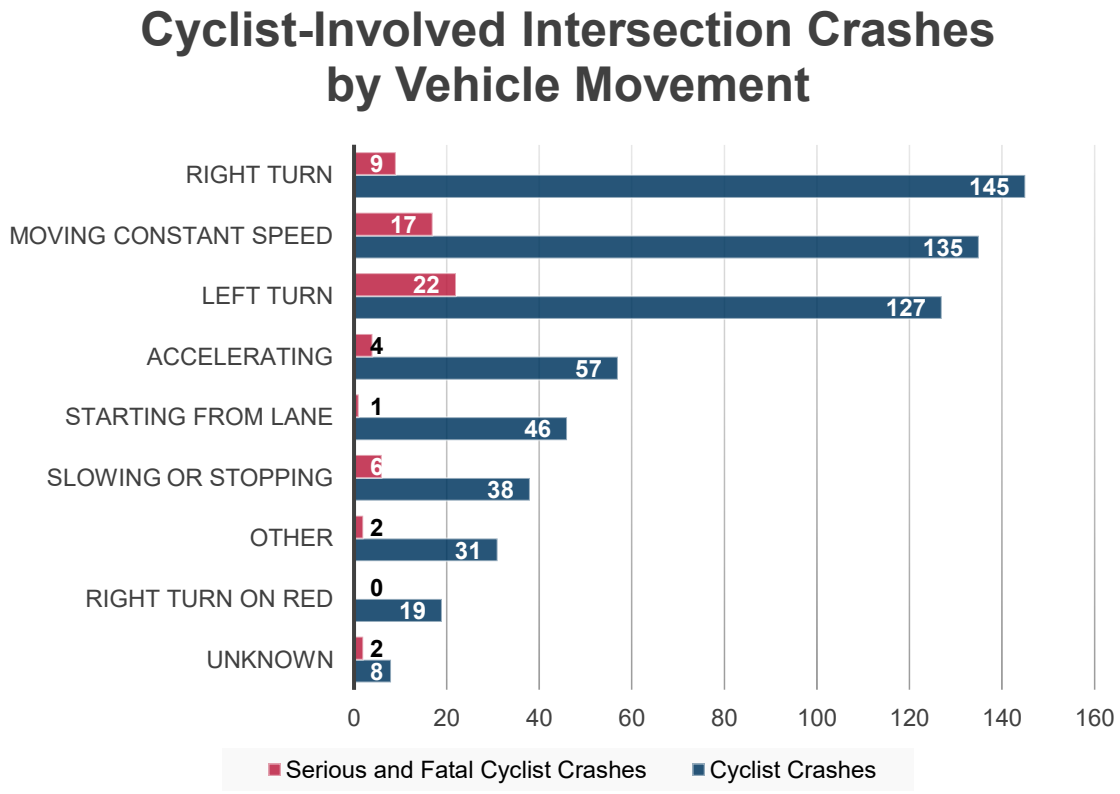
[1] An intersection related crash is a crash that (1) occurs on an approach to or exit from an intersection and (2) results from an activity, behavior, or control related to the movement of traffic units through the intersection.

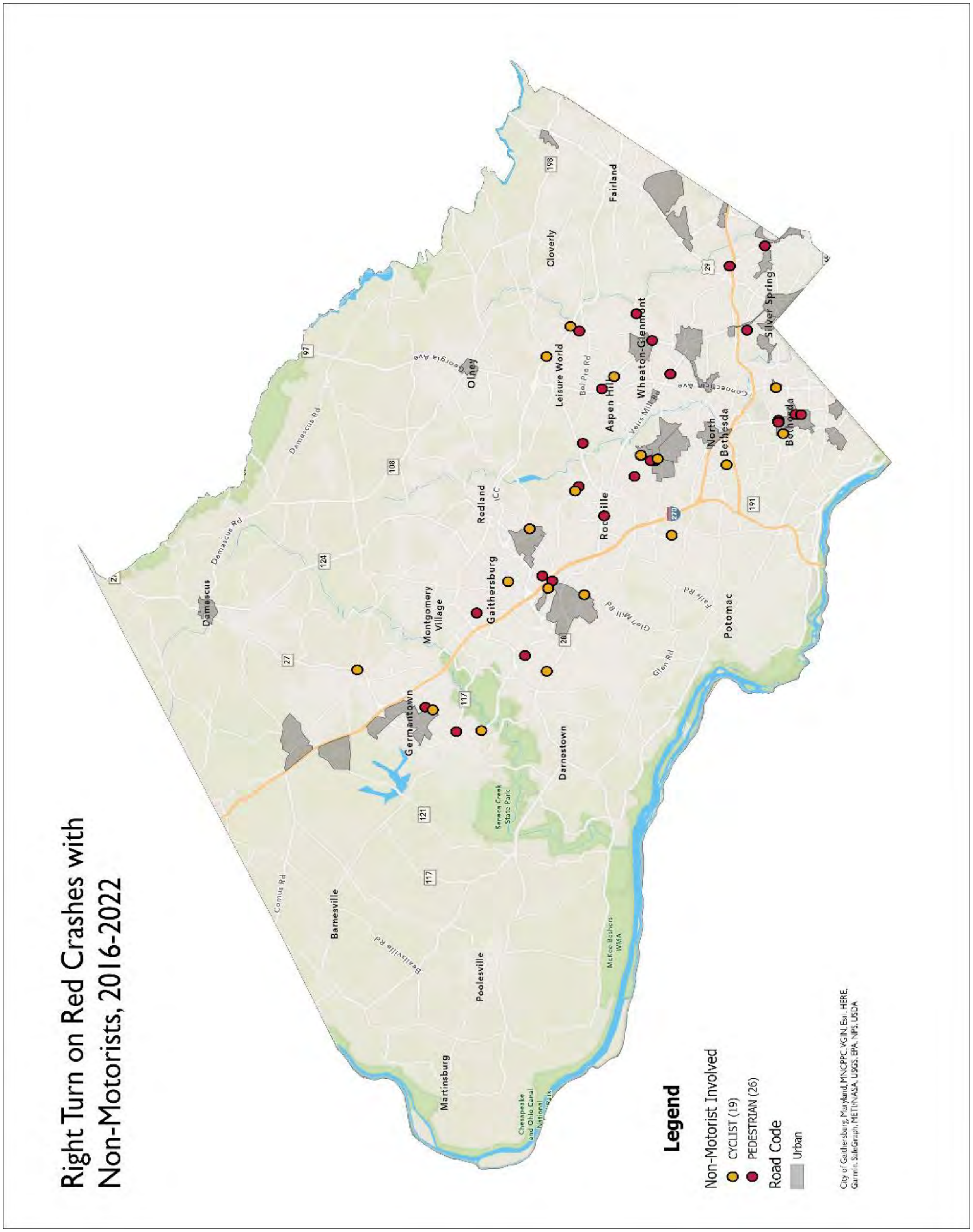
Pedestrian-Involved Intersection Crashes by Vehicle Movement



Cyclist-Involved Crashes by Location




Cyclist-Involved Intersection Crashes by Vehicle Movement
RIGHT TURN
MOVING CONSTANT SPEED
LEFT TURN
ACCELERATING
STARTING FROM LANE
SLOWING OR STOPPING
OTHER
RIGHT TURN ON RED
UNKNOWN
9
145
17
135
22
127
4
57
1
46
6
38
2
31
0
19
2
8
0
20
40
60
80
100
120
140
160
Serious and Fatal Cyclist Crashes
Cyclist Crashes


Right Turn on Red Crashes with Non-Motorists, 2016-2022
Legend
Non-Motorist Involved
CYCLIST (19)
PEDESTRIAN (26)
Road Code
Urban
City of Gaithersburg, Maryland, MNCPPC, VGIN, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA
Damascus
Damascus Rd
Germantown
Montgomery Village
Gaithersburg
Redland
Olney
Cloverly
Fairland
Leisure World
Aspen Hill
Wheaton-Glenmont
Rockville
North Bethesda
Bethesda
Silver Spring
Potomac
Darnestown
Barnesville
Poolesville
Martinsburg
Comus Rd
Beallsville Rd
Glen Rd
Falls Rd
Georgia Ave
Connecticut Ave
Bel Pre Rd
ICC
Seneca Creek State Park
McKee Beshers WMA
Chesapeake and Ohio Canal National

PEDESTRIAN AND CYCLIST CRASHES AT INTERSECTIONS BY POLICY AREA

The following tables summarize crashes where a pedestrian or cyclist was struck by a motor vehicle between 2016 and 2022 in the downtown and town center road code policy areas. Of the 45 crashes where the driver was turning right turn on red between 2016 and 2022, 17 (38%) were in downtown and town centers. All injuries were minor. The urban areas with more than one right turn on red crash involving a pedestrian or cyclists were Bethesda (5), Germantown Town Center (2), Great Seneca Science Corridor (2), Twinbrook (2), and White Flint 2 (2).

INTERSECTION CRASHES FOR LOCAL AND STATE ROADS

The following table shows the number of pedestrians and cyclists struck by a motorized vehicle between 2016 and 2022 on all intersections regardless of local, county, or state control.

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[2]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Bethesda CBD	82	58	4	17	13	1
Burtonsville	0	0	0	1	0	0
Cabin Branch	1	0	0	1	0	0
Chevy Chase Lake	1	1	0	1	1	1
Clarksburg Town Center	2	2	0	3	1	0
Damascus Town Center	2	0	0	0	0	0
Friendship Heights	16	10	0	3	3	0
Germantown Town Center	30	20	1	9	6	1
Glenmont	31	24	1	7	3	0
Great Seneca Science Corridor	24	6	1	21	14	1
Grosvenor	5	1	0	3	1	0
Kensington	11	3	0	5	2	0
Langley Crossroads	13	10	0	1	0	0

[2] Signalized intersection determined from the crash report where the report noted the traffic control was either a “traffic signal” or “flashing traffic signal.”

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[2]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Lyttonsville Purple Line Station	4	4	0	0	0	0
Montgomery Hills	7	3	0	4	1	0
Olney Town Center	10	7	0	4	1	0
Piney Branch	33	23	1	6	4	0
Shady Grove	25	20	0	6	5	1
Silver Spring CBD	121	91	0	24	15	0
Twinbrook	7	6	1	1	1	1
Veirs Mill Urban Road Code	14	7	0	3	0	0
Westbard	6	4	0	4	2	0
Wheaton CBD	51	31	0	6	3	0
White Flint	37	25	0	6	3	0
White Flint 2	21	17	1	13	7	1
White Oak Science Gateway	44	29	0	5	1	0
Woodside Purple Line Station	4	4	0	0	0	0

INTERSECTION CRASHES FOR COUNTY ROADS[3] ONLY

At intersections of County-maintained and State-maintained roadways, the State controls the intersection and any traffic control devices. Because Bill 11-23 only affects County-maintained intersections, the following table provides the same view as the data in the table above, but only for county intersections. Inside the downtown and town center areas, there were 265 pedestrian and 67 cyclist involved crashes at county-maintained intersections. Of the 265 crashes, 202 (76%) were at traffic controlled intersections and 6 involved a right-turn-on red vehicle movement.

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[4]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Bethesda CBD	41	28	2	5	4	0
Burtonsville	0	0	0	0	0	0
Cabin Branch	0	0	0	0	0	0
Chevy Chase Lake	0	0	0	0	0	0
Clarksburg Town Center	1	1	0	1	0	0
Damascus Town Center	0	0	0	0	0	0
Friendship Heights	11	7	0	0	0	0
Germantown Town Center	18	9	0	8	6	0
Glenmont	18	14	0	3	1	0
Great Seneca Science Corridor	12	4	0	12	8	1
Grosvenor	3	1	0	3	1	0
Kensington	1	0	0	1	0	0
Langley Crossroads	1	0	0	0	0	0
Lyttonsville Purple Line Station	0	0	0	0	0	0

[3] County road determined from the crash report where the main roadway is listed as County maintained. This may be an overcount as the crash may be intersection related to the County part of an intersection, but the signal is controlled by State Highway Administration.
[4] Signalized intersection determined from the crash report where the report noted the traffic control was either a “traffic signal” or “flashing traffic signal.”

Urban Road Code Area	Pedestrians Struck at Intersection	Pedestrians Struck at Signalized Intersection[4]	Pedestrian Struck during RToR	Cyclists Struck at Intersection	Cyclists Struck at Signalized Intersection	Cyclists Stuck during RToR
Montgomery Hills	3	0	0	2	1	0
Olney Town Center	2	1	0	0	0	0
Piney Branch	9	3	0	3	3	0
Shady Grove	18	15	0	5	4	1
Silver Spring CBD	43	34	0	7	3	0
Twinbrook	7	6	1	1	1	1
Veirs Mill Urban Road Code	9	3	0	2	0	0
Westbard	4	3	0	1	0	0
Wheaton CBD	15	9	0	3	0	0
White Flint	17	13	0	3	0	0
White Flint 2	13	9	0	5	1	0
White Oak Science Gateway	18	7	0	2	1	0
Woodside Purple Line Station	1	1	0	0	0	0

SIGNALIZED INTERSECTIONS IN DOWNTOWNS AND TOWN CENTERS[5]

There are 774 (and growing) intersections in Montgomery County controlled by traffic signals.[6] The majority (70%) are owned by the State Highway Administration. 278 (36%) signalized intersections are in Downtown and Town Centers with 99 maintained by the County, 179 by SHA.

Downtown/ Town Center Area	County-maintained intersection w traffic control	SHA-maintained intersection w traffic control	Total Signalized Intersections
Bethesda CBD	17	21	38
Burtonsville	0	4	4
Cabin Branch	0	0	0
Chevy Chase Lake	0	2	2
Clarksburg Town Center	0	1	1
Damascus Town Center	0	5	5
Friendship Heights	1	4	5
Germantown Town Center	3	8	11
Glenmont	2	6	8
Great Seneca Science Corridor	8	8	16
Grosvenor	0	3	3
Kensington	0	6	6
Langley Crossroads	0	6	6
Lyttonsville Purple Line Station	0	1	1
Montgomery Hills	0	8	8
Olney Town Center	0	4	4

[5] Signal data provided by the State Highway Administration Office of Traffic and Safety. Data are not reflective of the most recently installed County maintained traffic signals.
[6] Note that a traffic controlled intersection typically has 3-4 signals.

Downtown/ Town Center Area	County-maintained intersection w traffic control	SHA-maintained intersection w traffic control	Total Signalized Intersections
Piney Branch	0	9	9
Rock Spring Sector Plan	12	11	23
Shady Grove	7	8	15
Silver Spring CBD	15	17	32
Twinbrook	5	0	5
Veirs Mill Urban Road Code	2	2	4
Westbard	3	5	8
Wheaton CBD	0	13	13
White Flint	9	10	19
White Flint 2	13	3	16
White Oak Science Gateway	2	9	11
Woodside Purple Line Station	0	5	5
Grand Total	***99***	***179***	***278***

TRAFFIC VIOLATIONS ISSUED FOR RIGHT-TURN-ON-RED

Violations for making right turns on red where prohibited is governed by Maryland Transportation Article § 21-202(k). This article also covers turns made on overnight flashing red signals. Between 2016 and 2022, Montgomery County Police conducted 403 stops for violating this traffic article. 158 of the 403 (39%) were made in urban road code areas.

Urban Road Code Area	Number of Violations for 21-202(k), 2016-2022
Silver Spring CBD	28
Germantown Town Center	22
Glenmont	17
Great Seneca Science Corridor	14
Piney Branch	13
Wheaton CBD	11
Bethesda CBD	9
White Oak Science Gateway	9
White Flint	5
White Flint 2	5
Olney Town Center	4
Shady Grove	4
Veirs Mill Urban Road Code	4
Clarksburg Town Center	3
Grosvenor	3
Chevy Chase Lake	2
Damascus Town Center	2
Kensington	1
Lyttonsville Purple Line Station	1
Westbard	1

FHWA PROVEN SAFETY COUNTERMEASURES FOR INTERSECTIONS

The US DOT Federal Highway Administration provides a list of twenty-eight countermeasures and strategies that are effective in reducing roadway fatalities and serious injuries. Leading pedestrian intervals (LPIs) are considered a proven countermeasure with a 13% reduction in vehicle-pedestrian crashes at intersections.

Pedestrian/Bicyclist


Bicycle Lanes


Crosswalk Visibility Enhancements


Leading Pedestrian Interval


Medians and Pedestrian Refuge Islands in Urban and Suburban Areas


Pedestrian Hybrid Beacons


Rectangular Rapid Flashing Beacons (RRFB)


Road Diets (Roadway Configuration)


Walkways

Intersections


Backplates with Retroreflective Borders


Corridor Access Management


Dedicated Left- and Right-Turn Lanes at Intersections


Reduced Left-Turn Conflict Intersections


Roundabouts


Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections


Yellow Change Intervals

NTOR AND LPI BACKGROUND

Below summarizes the reasons why jurisdictions utilize no right turn on red and leading pedestrian intervals and the experience other jurisdictions have had with these treatments.

NO TURN ON RED (NTOR)

BACKGROUND FOR ALLOWING RIGHT TURNS ON RED

From FHWA: "A permissible 'Right Turn on Red' (RTOR) was introduced in the 1970s as a fuel savings measure and has sometimes had detrimental effects on pedestrians. While the law requires motorists to come to a full stop and yield to cross street traffic and pedestrians prior to turning right on red, many motorists do not fully comply with the regulations. Motorists are so intent on looking for traffic approaching on their left that they may not be alert to pedestrians on their right. In addition motorists usually pull up into the crosswalk to wait for a gap in traffic, blocking pedestrian crossing movements. In some instances, motorists simply do not come to a full stop."

SAFETY OF RIGHT TURNS ON RED

Crash Modification Factors

- Permitting right-turn-on-red where previously prohibited right-turn-on red:
  - Vehicle/bicycle and Vehicle/pedestrian: 69% increase
  - Right turn crashes with minor and serious injuries: 60% increase
- Prohibit right-turn-on red where previously RToR was allowed:
  - Highway Safety Manual formula for motorist only crashes: $CMF = 0.98^{nprohib}$

Experience from other jurisdictions

DC

- In late 2018, DDOT piloted 100 location for NToR implementation based on the level of pedestrian activity, proximity to pedestrian generators, crash history, and geometric or operational characteristics.
- vehicle-to-vehicle conflicts dropped by 97% after the "no turn on red" signs were installed.
- Number of times drivers failed to yield to pedestrians when the light was red dropped by 92%.
- Drivers yielding to pedestrians when their light was green, with violations dropping by 59%.
- 30% more drivers encroaching on crosswalks likely due to drivers starting to make a turn on red and then realizing it was illegal, so ended up in the crosswalk.
- Four of the 252 approaches to intersections that DDOT monitored, drivers became more likely to enter crosswalks with pedestrians during green lights.

- Improved compliance using R10-11 and R10-11(1) signs as a standard.

San Francisco

- SFMTA posted No Turn on Red signs at over 50 intersections in the Tenderloin to study how they can make streets safer to cross.
- Findings from a before/after study reveal that No Turn on Red (NTOR) restrictions can keep crosswalks clear and reduce close calls on major intersections.
- 92% compliance with vehicles obeying turn restrictions.
- No significant change in the percentage of turning vehicles that yield at the crosswalk to pedestrians on a green light.

GUIDANCE ON NTOR IMPLEMENTATION

Maryland Manual on Uniform Traffic Control Devices (MdMUTCD)

The Maryland Manual on Uniform Traffic Control Devices (MdMUTCD) allows for the implementation of No Turn on Red Signs on roadways and provides the following guidance for determining if NToR should be considered (p. 133):

"No Turn on Red sign should be considered when an engineering study finds that one or more of the following conditions exists:

A. Inadequate sight distance to vehicles approaching from the left (or right, if applicable);
B. Geometrics or operational characteristics of the intersection that might result in unexpected conflicts;
C. An exclusive pedestrian phase;
D. An unacceptable number of pedestrian conflicts with right-turn-on-red maneuvers, especially involving children, older pedestrians, or persons with disabilities;
E. More than three right-turn-on-red accidents reported in a 12-month period for the particular approach; or
F. The skew angle of the intersecting roadways creates difficulty for drivers to see traffic approaching from their left."

Federal Highway Administration

- Prohibiting right turns on red is a simple, low cost measure. Together with a leading pedestrian interval, the signal changes can benefit pedestrians with minimal impacts on traffic. They should be done in locations with substantial pedestrian volume and places where children cross.
- Part-time ROTR prohibitions during the busiest times of the day may be sufficient to address the problem.
- Signs should be clearly visible to right-turning motorists stopped in the curb lane at the crosswalk.

LEADING PEDESTRIAN INTERVALS (LPI)

SAFETY OF LEADING PEDESTRIAN INVERVALS

Crash Modification Factors

- 13% reduction in pedestrian-vehicle crashes at intersections (FHWA study)
- 10% reduction in total crashes (Chicago, IL)
- 19% reduction in pedestrian-vehicle crashes (Chicago, IL)
- 59% reduction in pedestrian-vehicle crashes (State College, PA)

GUIDANCE ON LPI IMPLEMENTATION

NACTO

"Use LPIs at intersections where heavy turning traffic comes into conflict with crossing pedestrians during the permissive phase of the signal cycle. LPIs are typically applied where both pedestrian volumes and turning volumes are high enough to warrant an additional dedicated interval for pedestrian-only traffic."

Los Angeles DOT

1. LPI should be considered at crosswalks controlled by a traffic signal if a. or b. apply:
    a. The WALK phase is actuated.
    b. For crosswalk legs with non-actuated WALK phases, one of the following conditions exist:
        i. There are high volumes of turning vehicles (at least 200 vehicles-per-hour per crosswalk during peak hours).
        ii. The intersection is within 500 feet of a facility that attracts or generates a significant number of vulnerable users (children, seniors, persons with disabilities) such as a school, park, hospital, or senior center.
        iii. The intersection is along a High Quality Transit Corridor (HQTC). A HQTC is defined in the Southern California Association of Governments 2016 Regional Transportation Plan/Sustainable Communities Strategy as a corridor with fixed route bus service with service intervals of 15 minutes or less during peak commute hours. Note that LPI can have adverse impacts for transit routes operating parallel to the crosswalks where LPI is added.
        iv. The intersection's geometry is atypical, resulting in unexpected conflicts and visibility issues.
2. If LPI is implemented for a particular signalized crosswalk leg of an intersection, then it should be implemented for the adjacent parallel leg as well. However, it is not necessary to be implemented for the perpendicular legs since those legs can be considered

independently. Although LPI can be configured within most existing traffic signal phasing plans, specific cases may require the preparation of a new signal plan to revise the phase diagram (e.g., opposed phasing with a shared pedestrian phase) and may require a field modification of the controller. Additionally, when implementing LPI features for a crosswalk whose operation follows protected-permissive left turn (PPLT) phasing serving the left turn across the crosswalk in question, the controller will suppress the LPI feature in cycles when the left-turn arrow is served. The LPI feature will operate normally when the left-turn arrow is not served.

SCHOOL-AGE PEDESTRIANS AND CYCLISTS STRUCK NEAR SCHOOLS

SUMMARY

Bill 11-23 would require the Montgomery County Department of Transportation (MCDOT) to perform an infrastructure review when a student is involved in a collision within a County designated school zone. The review must identify "any deficiencies in engineering, traffic control, and traffic operations; and appropriate corrective actions and crash reduction countermeasures that are consistent with the United States Department of Transportation's best practices and the County's Vision Zero program."

Depending on how the final bill is implemented, **expect between 8-10 reviews each year for school aged pedestrians and cyclists in County designated school zones and nearly 30 reviews if required for all pedestrians and cyclists struck in County designated school zones. For MCPS parking lots, there would be 4 reviews completed by the lead agency.** This analysis does not include school zones designated by municipalities or the State Highway Administration. Including those roadways would more than double the number of reviews required. This work would be in addition to the proactive, systemic reviews currently performed by MCDOT and discussed on page 4 below.

SCENARIOS FOR REVIEWING ALL PED/BIKE CRASHES IN DESIGNATED SCHOOL ZONES AND MCPS PROPERTY

During the March 30, 2023, T&E Committee, Councilmembers indicated they would prefer MCDOT to investigate all pedestrian and bike-involved crashes occurring in a designated school zone regardless of age or time of day. Below are potential scenarios about how many reviews that could trigger each year based on historical crash data reported between 2016-2019 and 2022 (ignoring 2020 and 2021 due to school closures and travel changes during the COVID-19 pandemic).

CRASHES IN COUNTY DESIGNATED SCHOOL ZONES

Under Maryland Transportation Code § 21-803.1, the State Highway Administration or a local authority (municipal or county government) may establish a school zone and maximum speed limits within a half-mile of any public or private school. Montgomery County Department of Transportation designates school zones on County-maintained roads for public and private grade schools.

For a five-year period (2016-2019 and 2022), there were **121 pedestrians (24 per year) and 30 cyclists (6 per year) struck in County designated school zones**. Of those crashes, 30 (20%) resulted in serious or fatal injuries. This closely mirrors the countywide average of 18% of pedestrian and cyclist-involved crashes ending in serious or fatal injuries.

Comparing school age non-motorists (aged 6-19) to other ages, **school aged non-motorists made up 43 (28%) of the pedestrian and bicycle crashes in County designated school zones**. If Bill 11-23 were to require MCDOT to investigate and report on school-aged crashes,

this would result in 8-10 reports each year. If Bill 11-23 requires all crashes in County designated school zones, MCDOT would have to write and publish 30 reviews each year. These reviews would be in addition to the department's proactive work, highlighted on page 4.

Table 1 - Pedestrians or Cyclists struck in County designated school zones.

Injury Level	Age 6-19 Pedestrian	Other Age Pedestrian	Age 6-19 Cyclist	Other Age Cyclist	*Total*
None	3	2	2	2	***9***
Minor	28	64	4	16	***112***
Serious	5	14	1	4	***24***
Fatal	0	5	0	1	***6***
Total	***36***	***85***	***7***	***23***	***151***

CRASHES ON MCPS PROPERTY

During the March 30, 2023, T&E Committee, Councilmembers indicated that all crashes involving a person walking, rolling, or biking on Montgomery County Public School property should be investigated beyond the police crash report by the Montgomery County Department of Transportation or Public Schools.

For a five-year period (2016-2019 and 2022), **there were 21 crashes (4 per year) involving a pedestrian or cyclist on MCPS school grounds**. 19/21 (90%) resulted in no or minor injuries with one resulting in serious injuries and one fatality. In the serious injury collision, the school-aged pedestrian was allegedly in a prone position on the ground in the parking lot and struck by a turning vehicle. In the fatal crash, an adult male using a rolling walker was struck in a marked crosswalk on school property by a trash truck backing into the service alley.

The most common vehicle movement in parking lots mirrors overall parking lot crashes with the vehicle backing when the crash occurs.

Table 2 - Pedestrians and Cyclists Struck on MCPS Property by Vehicle Movement

Vehicle Movement	Number of Vehicles Involved in Crash
Backing	5
Slowing or Stopping	4
Accelerating	3
Moving Constant Speed	2
Parking	2
Making Left or Right Turn	2
Unknown	2
Starting from Lane	1

Table 3 - Pedestrians and Cyclists Struck on MCPS Property by Time of Day

Time of Day	Crashes
Before 6AM	1
6AM - 9AM	14
10AM – 2PM	1
3PM – 6PM	5
After 6PM	0

SCENARIOS UNDER BILL 11-23 AS INTRODUCED

Below are various scenarios showing the number of historical crashes that occurred within a half mile of a Montgomery County Public School involving non-motorists between the ages of 6 and 19 (a proxy for school aged walkers and bikers).

All County Government maintained roads and MCPS property.

- Average number of peds/bikes ages 6-19 struck with **any or no injury** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 22.
- Average number of peds/bikes ages 6-19 struck between the hours of 5AM and 6PM with **any or no injury** within 0.5 miles of a MCPS school building and: 19.
- Average number of ped/bikes ages 6-19 struck with **serious or fatal injuries** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 3.
- Average number of ped/bikes ages 6-19 struck with **serious or fatal injuries** between the hours of 5AM and 6PM within 0.5 miles of a MCPS school building per year and (2016-2019, 2022): 2.

All roads and all off-road crashes

- Average number of peds/bikes ages 6-19 struck with **any or no injury** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 42.
- Average number of peds/bikes ages 6-19 struck between the hours of 5AM and 6PM with **any or no injury** within 0.5 miles of a MCPS school building and: 36.
- Average number of ped/bikes ages 6-19 struck with **serious or fatal injuries** within 0.5 miles of a MCPS school building per year (2016-2019, 2022): 5.
- Average number of ped/bikes ages 6-19 struck between the hours of 5AM and 6PM with **serious or fatal injuries** within 0.5 miles of a MCPS school building per year and (2016-2019, 2022): 4.

MCDOT PROJECTS AND STUDIES AROUND SCHOOLS

The Montgomery County Department of Transportation has a robust Safe Routes to School program that analyzes the walking area around each Montgomery County Public School. Under the Vision Zero 2030 Action Plan action S-9, MCDOT completes on average 5 walkability audits (covering 15 schools) and constructs 5-8 short and med-term recommendations coming from completed walkability audits. All completed walkability audits are on MCDOT's website at https://www.montgomerycountymd.gov/DOT-PedSafety/srts/resources.html. Example of a recent walkability study for Cashell Elementary School available here.

Walkability Studies. During the walk area analysis, staff observe arrival and dismissal operations of the school, coordinate with school staff and crossing guards, and complete a comprehensive inventory and condition assessment of street networks for pedestrian safety and walkability throughout each school walkshed. The walkability studies summarize observations related to existing conditions, identify safety hazards, infrastructure deficiencies, and provide recommendations for improving the safety of those walking and rolling to and from school. Recommendations range from minor signing and pavement marking improvements to the construction of intersection improvements and adding new sidewalk where there is missing sidewalk in the network to provide safe and accessible pathways for all students.

Sidewalk Gap Buildout. Each school walkshed is reviewed for sidewalk connectivity and accessibility as part of the safety evaluation process. Key walking routes are prioritized to ensure students walking to school are provided with dedicated space outside of vehicular travel ways along a street segment. Based on feedback received from school officials, observations of travel patterns, road user behaviors, and the layout of the street network relative to the school attendance boundaries, critical gaps in the sidewalk network are identified. Locations where critical sidewalk gaps are identified go through a constructability review to determine potential site constraints such as property lines, drainage patterns, impacts to street trees, and other considerations. Once locations where critical sidewalk gaps have been identified are determined to be constructable, implementation is prioritized as funding becomes available.

Safety and Spot Improvements. The SRTS program also pursues safety improvements based on recommendations from completed walkability studies and requests from County residents. Safety recommendations that can be completed through maintenance efforts and minor construction within public rights of way are implemented as funding and resources become available. Equity Emphasis Areas (EEA), Bicycle and Pedestrian Priority Areas (BiPPA), Pedestrian Level of Comfort (PLOC), and benefit-cost analyses are all considered when prioritizing SRTS safety improvements.

While the SRTS program is a proactive safety initiative, MCDOT is responsible for maintaining or enhancing the safety of roadways throughout the County and often receives requests for safety improvements from residents, civic organizations or public officials. When safety issues are verified by MCDOT staff, mitigation of the hazard(s) is recommended, and adjacent, impacted properties are notified.

CASHELL ELEMENTARY SCHOOL
SAFE ROUTES TO SCHOOL ACTION PLAN
EXISTING CONDITIONS, FINDINGS, AND RECOMMENDATIONS

FINAL

MCDOT
Montgomery County Department of Transportation

June 2018

(A25)

CASHELL ELEMENTARY SCHOOL WALKABOUT DETAILS

Date: June 07, 2018

Observation: arrival and dismissal

Participants:

- Toole Design Group staff - Kyle Lukacs and Sheila Borkar
- Cashell ES Secretary – Denise Alexander

Purpose:

- Observe school arrival and dismissal processes
- Evaluate school-zone infrastructure
- Evaluate infrastructure within walk zone
- Assess existing Safe Routes to School programming

OVERVIEW OF CASHELL ELEMENTARY SCHOOL

- Location: Cherry Valley Dr & Cashell Rd
- 1 Attendance Zone
- Major roads feature sidewalks while lower-volume roads lack sidewalks
- 385 Students
- 63 Staff
- School Day: 9:00 AM – 3:25 PM
- 9 Buses

EXISTING CONDITIONS

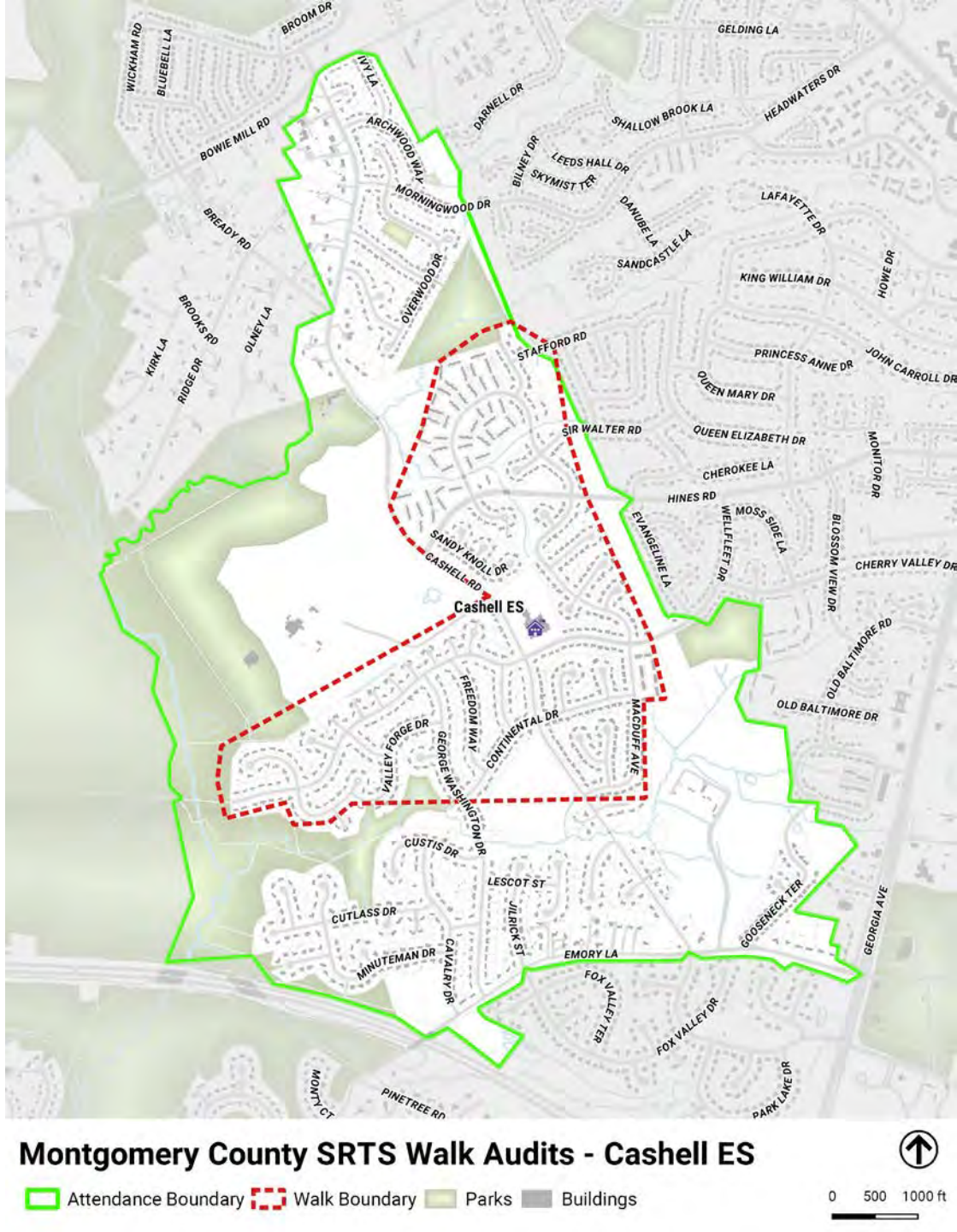
(A28)

TRAVEL PATTERNS

Cashell Elementary School is a neighborhood school with one attendance zone. Most roads either have sidewalks or are wide low-speed roads.

With the exception of Hines Rd and Cashell Rd, the majority of roads within the attendance boundary are neighborhood streets.

(A29)



PEDESTRIAN NETWORK ANALYSIS

Sidewalks – There are sidewalks on the school side of Cashell Rd and Cherry Valley Dr adjacent to the school site. Landscaped buffers contribute to a comfortable walking environment.

Crosswalks – There are marked crosswalks on at least two legs at the intersections of Cashell Rd & Cherry Valley Dr and Cherry Valley Dr & Macduff Ave. No other marked crossings of either Cashell Rd or Cherry Valley Dr within walk zone.

Curb Ramps – Intersection of Cherry Valley Dr and Macduff Ave missing curb ramps. Non-compliant curb ramps along Hines Rd.

(A30)

BICYCLING NETWORK

On-street – There is a dedicated bike lane on Hines Rd. There are no other on-road facilities within the walk zone.

Off-street – There is an asphalt trail between Sandy Knoll Dr and the field and track north of the school.

High Stress Roads – Cashell Rd and Hines Rd create major barriers to bicycling.

(A31)

GENERAL OBSERVATIONS

Bus Loop

- Bus loop located on Cherry Valley Dr.
- There are 9 buses: 3 Pre-K, 2 Conventional, and 2 Special Education buses

Parent Drop-off

- Designated parent drop-off loop is in the parking lot off of Cashell Rd.

Walking/Biking

- There is one crossing guard at the intersection of Cashell Rd and Cherry Valley Dr.

Cashel Rd sidewalk looking north toward pick-up and drop-off exit.

ARRIVAL OBSERVATIONS

General

- The official school day starts at 9:00 AM, with before-school care for younger students beginning at 6:30 AM. Most students arrive between 8:50 AM and 9:00 AM.
- Two teachers help children arriving by bus.
- No significant queuing was noted on Cashell Rd. The crossing guard noted that this was unusual and likely because of good weather and a higher-than-average percentage of students walking to school.

Cones block the teacher parking during pick-up and drop-off.

(A33)

ARRIVAL OBSERVATIONS

Parent Drop-off

- Designated drop-off zone is a loop within the staff parking lot. It is 475 ft long, and has two lanes– one for drop-off, and one for circulation. It holds approximately 22 cars.
- Several staff members and older students supervise drop-off and keep the line moving. Cones keep cars from bypassing the line and dropping off in the parking lot.
- Drop-offs were also observed on Cherry Valley Dr. Some parents dropped off on Cherry Valley Dr. west of Cashell Rd., but more parents dropped east of Cashell Rd. Some parents parked, got out of the vehicle with their child, and walked them to the school entrance.

The right lane is used for pick-ups and drop-offs while the left lane is used for vehicles to clear the lot.

DISMISSAL OBSERVATIONS

General

- Kindergarten-5th grade students are dismissed at 3:25 PM.

Bus Loop

- Teachers assist children onto school buses.
- Some buses are lined up before school bell rings. Buses leave independently of each other.

Parent Pick-up

- Parents start queuing in the drop-off loop as early as 2:45 PM.
- Some parents park on Cherry Valley Dr and walk their children to their cars from in front of the school.
- Parents utilize placards to identify themselves and students being picked up

View of the pick-up procedure from the north end of the lot

(A35)

ARRIVAL & DISMISSAL RECOMMENDATIONS

- Educate parents on proper drop-off and pick-up location and procedures. Parents currently park along Cherry Valley Dr, often blocking residential driveways, and access the school without using the existing crosswalk.
- School administrators suggested using bus loop for pick-up and drop-off. This is not recommended due to the width of the loop, lack of formal lanes, and unpredictable vehicle movements. Additionally, the area adjacent to the bus loop contains a playground and is a gathering space for walking families.

DESIGN RECOMMENDATIONS

INFRASTRUCTURE RECOMMENDATIONS MAP

Montgomery County SRTS Walk Audits - Cashell ES

Intersection Recommendation
Street Recommendation
Sidewalk Recommendation
Other Recommendation
Walk Boundary
Sidewalks

0 300 600 ft

GENERAL RECOMMENDATIONS WITHIN WALKING AREA OF SCHOOL

Repaint faded crosswalk markings.

Faded crosswalk at Cashell Rd & Macduff Ave

INTERSECTION RECOMMENDATIONS MAP

Montgomery County SRTS Walk Audits - Cashell ES

- Intersection Recommendation
- Street Recommendation
- Sidewalk Recommendation
- Other Recommendation
- Walk Boundary
- Sidewalks

0 300 600 ft

(A40)

INTERSECTION RECOMMENDATIONS

Map ID	Issue	Recommendation	Timeframe*
3	Faded crosswalk markings	Repaint high visibility crosswalk markings on north and east legs	Short
8	Missing curb ramps, Faded crosswalk markings, No marked crossing on east leg	Add new curb ramps on NE and SE corners, Install high visibility crosswalk on all legs	Short
11	No marked crossing, Faded crosswalk markings	Install high visibility crosswalk on north leg; Repaint faded crosswalk markings on east leg	Short
12	Faded crosswalk markings	Repaint crosswalk markings on east leg; Install crosswalk across Cashell Rd to bus stop; Add new curb ramps to bus stop	Short
17	Non-compliant curb ramps	Replace existing curb ramps	Short
18	Faded crosswalk markings; Non-compliant curb ramps	Replace existing curb ramps, Repaint crosswalk markings	Short
19	Faded crosswalk markings; Non-compliant curb ramps	Replace existing curb ramps, Repaint crosswalk markings	Short
20	No marked crossing, Faded crosswalk markings, Long crossing distance	Install crosswalk on north leg, Install median crossing islands, Repaint faded crosswalk markings on east and south leg	Short
21	No marked crossing, Long crossing distance	Install high visibility crosswalk across Hines Rd, Install median crossing islands	Short
23	Non-compliant curb ramps, No marked crossing, Long crossing distance	Replace existing curb ramp, Install crosswalk, Install median crossing islands	Short

** Short = within 1 year, Medium = within 3 years, Long = 3 or more years*

INTERSECTION RECOMMENDATIONS

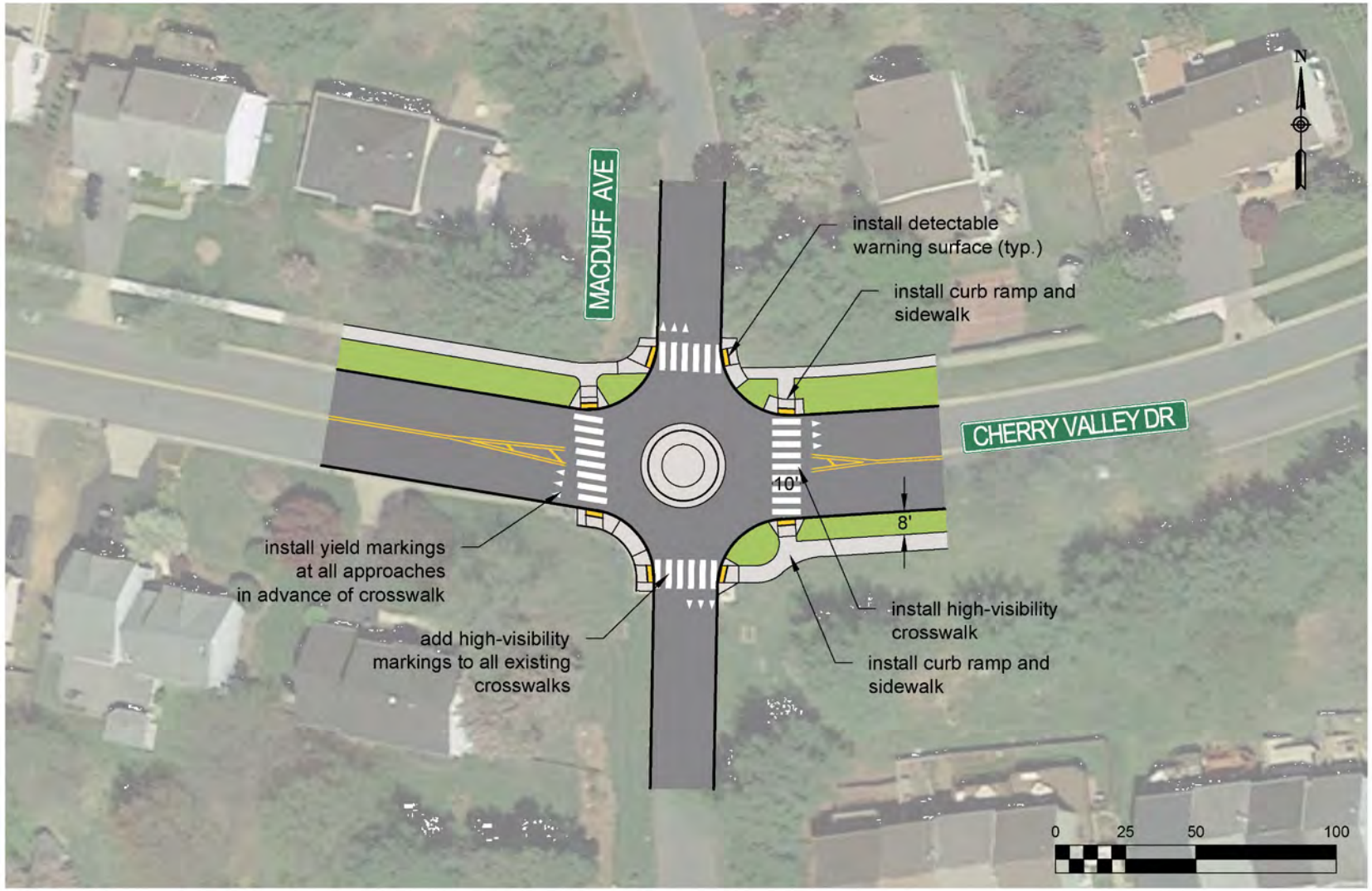
3. Faded crosswalk at Cashell Rd & Cherry Valley Dr

8. Missing crosswalk on east leg of Cherry Valley Dr and Macduff Ave roundabout

11. Missing crosswalk at Cashell Rd & Continental Dr

17. Faded crosswalk at Sandy Knoll Dr

RECOMMENDATION #8



TOOLE DESIGN
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CASHELL ELEMENTARY SCHOOL
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
SAFE ROUTES TO SCHOOL ACTION PLANS

Cherry Valley Dr and Mcaduff Ave

DRAWN: SB
FIGURE 2 OF 2
DATE: 10 / 03 / 2018

SIDEWALK RECOMMENDATIONS MAP

Montgomery County SRTS Walk Audits - Cashell ES

- Intersection Recommendation
- Street Recommendation
- Sidewalk Recommendation
- Other Recommendation
- Walk Boundary
- Sidewalks

0 300 600 ft

SIDEWALK RECOMMENDATIONS

Map ID	Issue	Recommendation	Timeframe*
1	Missing sidewalk connection to existing sidewalk on north side of Cherry Valley Dr	Construct new sidewalk	Medium
2	Narrow sidewalk is congested due to high pedestrian volumes at arrival and dismissal	Widen existing sidewalk	Medium
7	Missing sidewalk connection to homes on south side of Cherry Valley Dr	Construct new sidewalk	Long
9	Missing sidewalk to homes on Macduff Ave	Construct new sidewalk (if feasible given drainage ditch)	Medium
14	Missing sidewalk connection between trail and Cherry Valley Dr	Construct new sidewalk (if feasible given drainage ditch)	Medium

** Short = within 1 year, Medium = within 3 years, Long = 3 or more years*

SIDEWALK RECOMMENDATIONS

2. Narrow and poorly paved sidewalk on Cherry Valley Dr

6. Narrow sidewalk along Cherry Valley Dr

13. Narrow sidewalk along Cashell Rd

14. Missing sidewalk along Macduff Ave

STREET RECOMMENDATIONS MAP

Montgomery County SRTS Walk Audits - Cashell ES

Intersection Recommendation
Street Recommendation
Sidewalk Recommendation
Other Recommendation
Walk Boundary
Sidewalks

0 300 600 ft

STREET RECOMMENDATIONS

Map ID	Issue	Recommendation	Timeframe*
22	No bike facility, Desired bike route, Wide ROW	Add separated bike lane	Medium

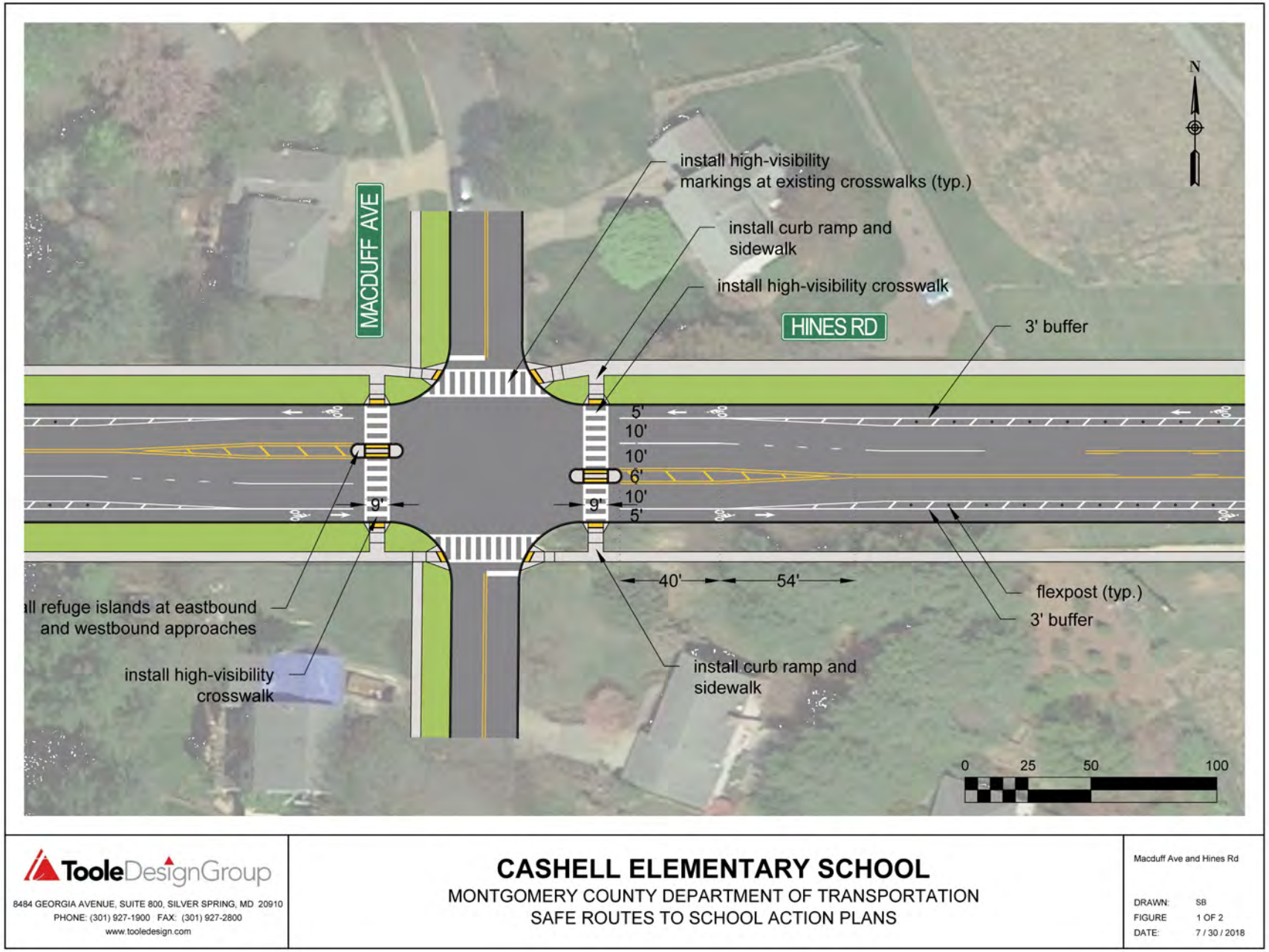
** Short = within 1 year, Medium = within 3 years, Long = 3 or more years*

Note: Hines Road is identified as a future separated bikeway in the 2018 Montgomery County Bicycle plan

STREET RECOMMENDATIONS

22. Views east and west along Hines Rd. Wide ROW and a striped turn lane offer opportunities to build either a buffered bike lane or separated bike lane.

RECOMMENDATION #23



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CASHELL ELEMENTARY SCHOOL
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
SAFE ROUTES TO SCHOOL ACTION PLANS

Macduff Ave and Hines Rd

DRAWN: SB
FIGURE 1 OF 2
DATE: 7 / 30 / 2018

OTHER RECOMMENDATIONS MAP

Montgomery County SRTS Walk Audits - Cashell ES

- Intersection Recommendation
- Street Recommendation
- Sidewalk Recommendation
- Other Recommendation
- Walk Boundary
- Sidewalks

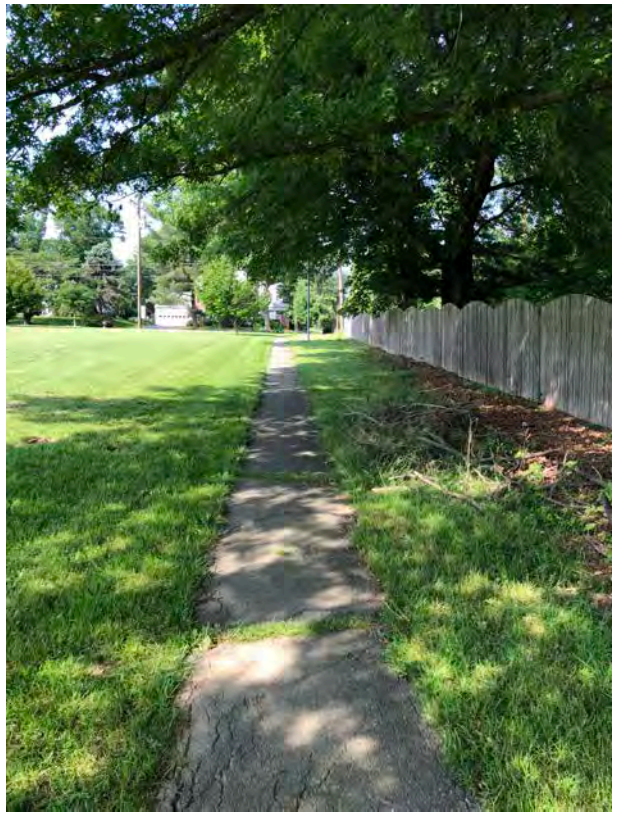
0 300 600 ft

OTHER RECOMMENDATIONS

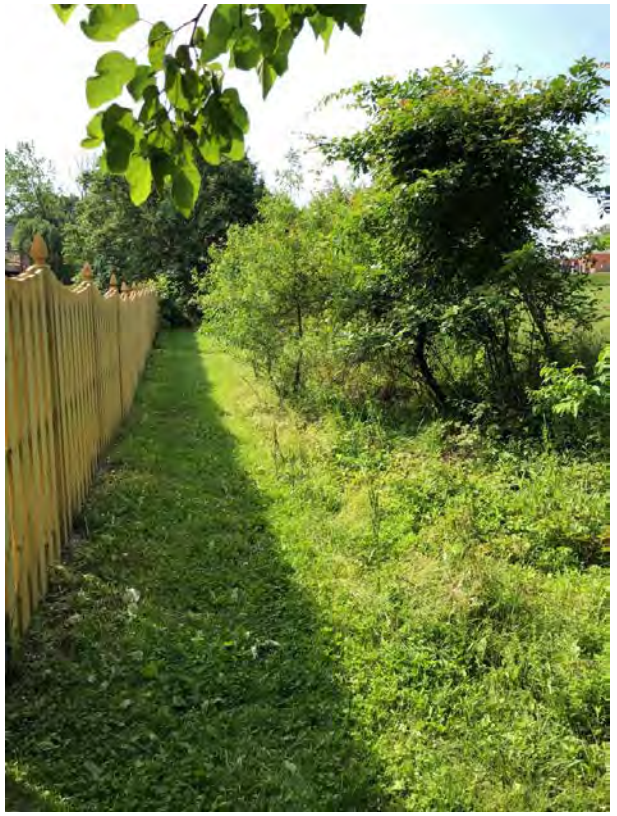
Map ID	Issue	Recommendation	Timeframe*
10	Ride On Bus Sign blocking school zone signage	Relocate school zone signage	Short

** Short = within 1 year, Medium = within 3 years, Long = 3 or more years*

OTHER RECOMMENDATIONS



15. The existing path along Cashell Rd leading to Sandy Knoll Dr is narrow and in poor condition.



16. A sidewalk spur from Macduff Ave terminates before the athletic fields offering a potential new trail connection.

OTHER RECOMMENDATIONS

10. Ride On Bus sign blocks school zone signage.

SCHOOL SITE RECOMMENDATIONS MAP

SCHOOL SITE RECOMMENDATIONS

Map ID	Issue	Recommendation	Timeframe*
4	Faded crosswalk markings blend in with lighter asphalt	Repaint crosswalk markings with high contrast paint	Short
5	Faded crosswalk markings blend in with lighter asphalt	Repaint crosswalk markings with high contrast paint	Short
6	Narrow sidewalk	Widen existing sidewalk	Medium
13	Narrow sidewalk	Widen existing sidewalk (Or alternatively construct shared-use path) from Macduff Ave to Hines Rd.	Medium
15	Existing trail is narrow and in poor condition	Formalize and repave trail	Medium
16	Missing trail connection between Macduff Ave and existing school trail	Pave trail connection	Medium

** Short = within 1 year, Medium = within 3 years, Long = 3 or more years*